



**U.S. Army
Environmental
Center**

VERSION I

Base Realignment and Closure (BRAC) Cleanup Plan

**Fort Ord
Monterey, California**

Prepared for:

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010**

Prepared by:

**THE EARTH TECHNOLOGY CORPORATION
1420 KING STREET, SUITE 600
ALEXANDRIA, VIRGINIA 22314**

Commander, Fort Ord
Monterey, California 93941

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

25 MARCH 1994

20070424299

TABLE OF CONTENTS

Section	Page No.
Executive Summary	ES-1
Chapter 1: Introduction and Summary	1-1
1.1 Environmental Response Objectives	1-2
1.2 BCP Purpose, Updates, and Distribution	1-3
1.3 BCT/Project Team	1-4
1.4 Installation Description and History	1-5
1.5 Environmental Setting	1-11
1.6 Hazardous Substances and Waste Management Practices	1-12
1.7 Off-Post Property/Tenants	1-15
Chapter 2: Disposal and Reuse Plan	2-1
2.1 Status of Disposal Planning Process	2-1
2.2 Relationship to Environmental Programs	2-2
2.3 Property Transfer Methods	2-4
2.3.1 Federal Transfer of Property	2-4
2.3.2 No-Cost Public Benefit Conveyance	2-4
2.3.3 Negotiated Sale	2-8
2.3.4 Competitive Public Sale	2-8
2.3.5 Widening of Public Highways	2-8
2.3.6 Donated Property	2-8
2.3.7 Interim Leases	2-8
Chapter 3: Installation-Wide Environmental Program Status	3-1
3.1 Environmental Program Status	3-1
3.1.1 Restoration Sites	3-1
3.1.2 Installation-Wide Source Discovery and Assessment Status	3-21
3.2 Compliance Program Status	3-22
3.2.1 Storage Tanks	3-23
3.2.2 Hazardous Materials/Waste Management	3-33
3.2.3 Solid Waste Management	3-33
3.2.4 Polychlorinated Biphenyls	3-35
3.2.5 Asbestos	3-36
3.2.6 Radon	3-37
3.2.7 RCRA Facilities (SWMUs)	3-37
3.2.8 NPDES Permits	3-38
3.2.9 Oil/Water Separators	3-38
3.2.10 NRC Licensing	3-38
3.2.11 Pollution Prevention	3-39
3.2.12 Mixed Waste	3-39
3.2.13 Radiation	3-39

TABLE OF CONTENTS

Continued

Section	Page No.
3.2.14 NEPA	3-39
3.2.15 Lead-Based Paint	3-39
3.2.16 Medical Waste	3-40
3.2.17 Unexploded Ordnance	3-41
3.2.18 Other Compliance Programs	3-41
3.3 Status of Natural and Cultural Resources Programs	3-42
3.3.1 Vegetation	3-42
3.3.4 Designated Preservation Areas	3-43
3.3.5 Rare, Threatened and Endangered Species	3-44
3.3.6 Cultural Resources	3-44
3.3.7 Other Resources	3-45
3.4 Environmental Condition of Property	3-45
3.4.1 CERFA Parcels	3-46
3.4.2 CERFA Parcels with Qualifiers	3-46
3.4.3 CERFA Disqualified Parcels	3-46
3.4.4 CERFA Excluded Parcel	3-46
3.4.5 Suitability of Installation Property for Transfer by Deed	3-57
3.5 Status of Community Involvement	3-57
Chapter 4: Installation-Wide Strategy for Environmental Restoration	4-1
4.1 Zone/OU Designation and Strategy	4-1
4.1.1 Zone Designations	4-1
4.1.2 OU Designations	4-2
4.1.3 Sequence of OUs	4-2
4.1.4 Environmental Restoration Early Actions Strategy	4-7
4.1.5 Remedy Selection Approach	4-9
4.2 Compliance Strategy	4-10
4.2.1 Storage Tanks	4-10
4.2.2 Hazardous Materials/Waste Management	4-10
4.2.3 Solid Waste Management	4-11
4.2.4 Polychlorinated Biphenyls	4-11
4.2.5 Asbestos	4-11
4.2.6 Radon	4-11
4.2.7 RCRA Facility (SWMUs)	4-11
4.2.8 NPDES Permits	4-12
4.2.9 Oil/Water Separators	4-12
4.2.10 NRC Licensing	4-12
4.2.11 Pollution Prevention	4-12
4.2.12 Mixed Waste	4-12

TABLE OF CONTENTS

Continued

Section	Page No.
4.2.13 Radiation	4-13
4.2.14 NEPA	4-13
4.2.15 Lead-Based Paint	4-13
4.2.16 Medical Waste	4-13
4.2.17 Unexploded Ordnance	4-14
4.2.18 Other Compliance Programs	4-14
4.3 Natural and Cultural Resources Strategy(ies)	4-14
4.3.1 Vegetation	4-14
4.3.2 Wildlife	4-14
4.3.3 Wetlands	4-14
4.3.4 Designated Preservation Areas	4-15
4.3.5 Rare, Threatened, and Endangered Species	4-15
4.3.6 Cultural Resources Strategy	4-15
4.3.7 Other Resources	4-15
4.4 Community Involvement/Strategy	4-15
Chapter 5: Environmental Program Master Schedules	5-1
5.1 Environmental Restoration Program	5-1
5.1.1 Response Schedules	5-1
5.1.2 Requirements by Fiscal Year	5-1
5.2 Compliance Programs	5-1
5.2.1 Master Compliance Schedules	5-1
5.2.2 Requirements by Fiscal Year	5-6
5.3 Natural and Cultural Resources	5-6
5.3.1 Natural and Cultural Resources Schedule(s)	5-6
5.3.2 Requirements by Fiscal Year	5-6
5.4 Meeting Schedule	5-6
Chapter 6: Technical and Other Issues To Be Resolved	6-1
6.1 Data Usability	6-1
6.1.1 BCT Action Items	6-1
6.1.2 Rationale	6-1
6.1.3 Status/Strategy	6-1
6.2 Information Management	6-1
6.2.1 BCT Action Items	6-1
6.2.2 Rationale	6-2
6.2.3 Status/Strategy	6-2
6.3 Data Gaps	6-2
6.3.1 BCT Action Items	6-2
6.3.2 Rationale	6-2

TABLE OF CONTENTS

Continued

Section	Page No.
6.3.3 Status/Strategy	6-2
6.4 Background Levels	6-2
6.4.1 BCT Action Items	6-3
6.4.2 Rationale	6-3
6.4.3 Status/Strategy	6-3
6.5 Risk Assessments	6-3
6.5.1 BCT Action Items	6-3
6.5.2 Rationale	6-3
6.5.3 Status/Strategy	6-3
6.6 Installation-wide Remedial Action Strategy	6-4
6.6.1 BCT Action Items	6-4
6.6.2 Rationale	6-4
6.6.3 Status/Strategy	6-4
6.7 Interim Monitoring of Groundwater and Surface Water	6-4
6.7.1 BCT Action Items	6-4
6.7.2 Rationale	6-4
6.7.3 Status/Strategy	6-9
6.8 Excavation of Contaminated Materials	6-9
6.8.1 BCT Action Items	6-9
6.8.2 Rationale	6-9
6.8.3 Status/Strategy	6-9
6.9 Protocols for Remedial Design Reviews	6-9
6.9.1 BCT Action Items	6-9
6.9.2 Rationale	6-9
6.9.3 Status/Strategy	6-10
6.10 Conceptual Models	6-10
6.10.1 BCT Action Items	6-10
6.10.2 Rationale	6-10
6.10.3 Status/Strategy	6-10
6.11 Cleanup Standards	6-10
6.11.1 BCT Action Items	6-10
6.11.2 Rationale	6-11
6.11.3 Status/Strategy	6-11
6.12 Initiatives for Accelerating Cleanup	6-11
6.12.1 BCT Action Items	6-11
6.12.2 Rationale	6-14
6.12.3 Status/Strategy	6-14
6.13 Remedial Actions	6-16
6.13.1 BCT Action Items	6-16
6.13.2 Rationale	6-16

TABLE OF CONTENTS

Continued

Section	Page No.
6.13.3 Status/Strategy	6-16
6.14 Review of Selected Technologies for Application of Expedited Solutions .	6-16
6.14.1 BCT Action Items	6-16
6.14.2 Rationale	6-16
6.14.3 Status/Strategy	6-16
6.15 Hot Spot Removals	6-16
6.15.1 BCT Action Items	6-17
6.15.2 Rationale	6-17
6.15.3 Status/Strategy	6-17
6.16 Identification of Clean Properties	6-17
6.16.1 BCT Action Items	6-17
6.16.2 Rationale	6-17
6.16.3 Status/Strategy	6-17
6.17 Overlapping Phases of the Cleanup Process	6-17
6.17.1 BCT Action Items	6-18
6.17.2 Rationale	6-18
6.17.3 Status/Strategy	6-18
6.18 Improved Contracting Procedures	6-18
6.18.1 BCT Action Teams	6-18
6.18.2 Rationale	6-18
6.18.3 Status/Strategy	6-18
6.19 Interfacing with the Community Reuse Plan	6-19
6.19.1 BCT Action Items	6-19
6.19.2 Rationale	6-19
6.19.3 Status/Strategy	6-19
6.20 Bias for Cleanup Instead of Studies	6-19
6.20.1 BCT Action Items	6-19
6.20.2 Rationale	6-19
6.20.3 Status/Strategy	6-20
6.21 Expert Input on Contamination and Potential Remedial Actions	6-20
6.21.1 BCT Action Items	6-20
6.21.2 Rationale	6-20
6.21.3 Status/Strategy	6-20
6.22 Presumptive Remedies	6-20
6.22.1 BCT Action Items	6-20
6.22.2 Rationale	6-20
6.22.3 Status/Strategy	6-21
6.23 Partnering (Using Innovative Management, Coordination, and Communication Techniques)	6-21
6.23.1 BCT Action Items	6-21

TABLE OF CONTENTS

Continued

Section	Page No.
6.23.2 Rationale	6-21
6.23.3 Status/Strategy	6-21
6.24 Updating the CERFA and Natural/Cultural Resources Documentation . .	6-21
6.24.1 BCT Action Items	6-21
6.24.2 Rationale	6-22
6.24.3 Status/Strategy	6-22
6.25 Implementing the Policy for On-Site Decision Making	6-22
6.25.1 BCT Action Teams	6-22
6.25.2 Rationale	6-22
6.25.3 Status/Strategy	6-22
6.26 Structural and Infrastructure Constraints to Reuse	6-22
6.26.1 BCT Action Items	6-22
6.26.2 Rationale	6-23
6.26.3 Status/Strategy	6-23
6.27 Other Technical Reuse Issues to be Resolved	6-23
Chapter 7: Primary References	7-1
Appendix A: Fiscal Year Funding Requirements/Costs	
Appendix B: Installation Environmental Restoration Documents Summary Tables	
Appendix C: Decision Document/ROD Summaries	
Appendix D: No Further Response Action Planned (NFRAP) Summaries	
Appendix E: Conceptual Site Model Data Summaries	
Appendix F: Other Ancillary BCP Materials	

TABLE OF CONTENTS

Continued

LIST OF FIGURES

Figure	Page No.
1-1 General Location of Fort Ord	1-7
1-2 Surrounding Off-Post Land Use	1-8
1-3 Location of Past Hazardous Substance Activities	1-14
1-4 Off-Post Parcels	1-17
2-1 Disposal and Reuse Parcels	2-3
3-1A Sites, Zones, and OUs Currently Under Investigation	3-11
3-1B Sites, Zones, and OUs Currently Under Investigation	3-12
3-1C Sites, Zones, and OUs Currently Under Investigation	3-13
3-1D Sites, Zones, and OUs Currently Under Investigation	3-14
3-1E Sites, Zones, and OUs Currently Under Investigation	3-15
3-1F Sites, Zones, and OUs Currently Under Investigation	3-16
3-1G Sites, Zones, and OUs Currently Under Investigation	3-17
3-1H Sites, Zones, and OUs Currently Under Investigation	3-18
3-1I Sites, Zones, and OUs Currently Under Investigation	3-19
3-1J Sites, Zones, and OUs Currently Under Investigation	3-20
3-2A Environmental Condition of Property	3-47
3-2B Environmental Condition of Property	3-48
3-2C Environmental Condition of Property	3-49
3-2D Environmental Condition of Property	3-50
3-2E Environmental Condition of Property	3-51
3-2F Environmental Condition of Property	3-52
3-2G Environmental Condition of Property	3-53
3-2H Environmental Condition of Property	3-54
3-2I Environmental Condition of Property	3-55
3-2J Environmental Condition of Property	3-56
3-3A Suitability of Property of Transfer by Deed Map	3-58
3-3B Suitability of Property of Transfer by Deed Map	3-59
3-3C Suitability of Property of Transfer by Deed Map	3-60
3-3D Suitability of Property of Transfer by Deed Map	3-61
3-3E Suitability of Property of Transfer by Deed Map	3-62
3-3F Suitability of Property of Transfer by Deed Map	3-63
3-3G Suitability of Property of Transfer by Deed Map	3-64
3-3H Suitability of Property of Transfer by Deed Map	3-65
3-3I Suitability of Property of Transfer by Deed Map	3-66
3-3J Suitability of Property of Transfer by Deed Map	3-67
4-1 Sequence and Primary Document Timeline for Operable Units	4-5

TABLE OF CONTENTS

Continued

LIST OF FIGURES

Figure	Page No.
5-1 Projected Master Restoration Schedule	5-2
5-2 Projected Master Schedule for Mission/Operational-Related Compliance Programs	5-3
5-3 Projected Master Schedule for Closure-Related Compliance Programs	5-4
5-4 Projected Schedule for Natural and Cultural Resources Activities	5-5

LIST OF TABLES

Table	Page No.
ES-1 BCT Project Team Action Items	ES-3
1-1 BCP Distribution List	1-4
1-2 Current BCT/Project Team Members	1-6
1-3 Property Acquisition Summary	1-9
1-4 History of Installation Operations	1-10
1-5 Hazardous Waste Generating Activities	1-13
1-6 Off-Post Properties	1-15
1-7 On-Post Tenant Units	1-15
1-7 On-Post Tenant Units	1-16
2-1 Reuse Parcel Data Summary	2-5
2-1 Reuse Parcel Data Summary	2-6
2-1 Reuse Parcel Data Summary	2-7
2-2 Existing Legal Agreements/Interim Leases	2-9
3-1 Preliminary Location Summary	3-2
3-2 Environmental Restoration Site/Study Area Summary	3-7
3-3 Environmental Restoration Early Action Status	3-21
3-4 Mission/Operational-Related Compliance Projects	3-22
3-5 Closure-Related Compliance Projects	3-22
3-6 Compliance Early Action Status	3-23
3-7 Underground Storage Tank Inventory	3-24
3-8 Aboveground Storage Tank Inventory	3-34
4-1 Relationship Between Sites, OUs, and Parcels	4-3
4-2 Cleanup Sequence	4-4
4-3 Environmental Restoration Planned Early Actions	4-9
6-1 Future Land Use Risk Assessment for Development of Remedy Selections	6-5
6-2 Preliminary Remediation Goals*	6-12
6-3 Surface Water Standards	6-13

LIST OF ACRONYMS

ACM	Asbestos-Containing Material
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirements
AREE	Area Requiring Environmental Evaluation
AST	Aboveground Storage Tank
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
BRAC	Base Realignment and Closure
Cal EPA	California Environmental Protection Agency
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulation
CRP	Community Relations Plan
DD	Decision Documents
DHS	Department of Health Services
DOA	Department of the Army
DoD	Department of Defense
DOT	Department of Transportation
DPW	Department of Public Works
DRMO	Defense Reutilization and Marketing Office
DTSC	Department of Toxic Substances Control
EIS	Environmental Impact Statement
ENPA	Enhanced Preliminary Assessment
FAAF	Fritzsche Army Airfield
FFA	Federal Facility Agreement
FORG	Fort Ord Reuse Group
HMP	Habitat Management Plan
IFR	Interim Final Report
IRP	Installation Restoration Program
LTM	Long-Term Monitoring
NEPA	National Environmental Policy Act
NFA	No Further Action
NFRAP	No Further Response Action Planned
NMS	Nuclear Medical Services
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl

LIST OF ACRONYMS

Continued

POL	Petroleum, Oil, and Lubricant
ppm	Parts per Million
RA	Remedial Action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI/FS	Remedial Investigation/ Feasibility Study
RMIS	Restoration Management Information System
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Officer
SVA	Salinas Valley Aquiclude
SWMU	Solid Waste Management Unit
TERC	Total Environmental Restoration Contract
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
USACE	U.S. Army Corps of Engineers
USACERL	U.S. Army Construction Engineering Research Laboratory
USAEHA	U.S. Army Environmental Hygiene Agency
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

Introduction

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) contains the status, management and response strategy, and action items related to Fort Ord's ongoing environmental restoration and associated compliance programs. These programs support full restoration of the installation property, which is necessary to meet the requirements for property disposal and reuse activities associated with the closure of the installation. The scope of the BCP considers the following regulatory mechanisms: the BRAC Act; National Environmental Policy Act (NEPA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Community Environmental Response Facilitation Act; Resource Conservation and Recovery Act; and other applicable laws.

The BCP is a planning document, and the information and assumptions presented may not necessarily have complete approval from the U.S. Army and/or federal and state regulatory agencies. The BCP is a dynamic document that will be updated regularly to reflect the current status and strategies of remedial actions. This document is the first in a series of updates/modifications and represents conditions and strategies as of March 1994.

Status of Disposal, Reuse, and Interim Lease Process

Fort Ord will officially close on October 1, 1997. The disposal of Fort Ord involves three interrelated activities: the NEPA Environmental Impact Statement (EIS) process, development of a disposal plan, and development of a community reuse plan. The first two items are the responsibility of the U.S. Army. The third is the responsibility of the Fort Ord Reuse Group, an agency created by the California State Legislature for the purpose of developing a plan for reuse and redevelopment of the installation. The EIS process has been completed. The other two activities have not been completed at Fort Ord. The U.S. Army disposal decisions are outlined in the Record of Decision (ROD) to the Fort Ord Disposal and Reuse EIS.

To date, property disposal has not occurred at Fort Ord. Future property disposals at Fort Ord include transfer to universities, private development, and nature reserves.

Status of Environmental Restoration Program

On 21 February 1990, Fort Ord was listed on the U.S. Environmental Protection Agency (USEPA) National Priorities List, which brought it under the Federal Facilities provisions of Section 120 of CERCLA. On 19 November 1990, the U.S. Army, USEPA, Region IX, and California Department of Health Services (Department of Toxic Substances Control), and California Regional Water Quality Control Board signed a Federal Facility Agreement (FFA).

Under the FFA, the U.S. Army agreed to undertake, seek adequate funding for, fully implement, and report on tasks identified in the FFA. In the FFA, two operable units (OUs), OU 1, Fritzsche Army Airfield Fire Drill Area, and OU 2, Fort Ord Landfills, were identified. Additionally, the FFA specified that the U.S. Army was to prepare a installation-wide Remedial Investigation/Feasibility Study (RI/FS) for sites identified in an installation-wide work plan. OU 1 has been investigated, soil remediation has been completed and groundwater remediation is continues. The draft ROD for OU 2 was submitted to the regulatory agencies for comment on 10 January 1994. The Base-wide Installation Restoration Program (IRP) has identified 41 sites that require further investigation. On the basis of available site characterization data, 11 of these sites have been identified for early actions. Sixteen sites have been recommended for no further action and are included in a draft No Further Action ROD. Sixteen sites have been recommended for interim actions and are included in a draft Interim Action ROD. The remainder of the sites will be evaluated in the installation-wide RI/FS report.

Key Restoration and Transferability Strategies and Schedules

Fort Ord has shifted its focus from the activities of an active installation to compliance and restoration for disposal and reuse of the property. The BCP strategies are currently being implemented to focus restoration activities towards final transfer of installation property. Strategies for determining the most effective response mechanisms for contaminant sources and contaminated areas during the early stages of the restoration process at the installation have been performed on a case-by-case basis by the Project Team.

Summary of Current BRAC Cleanup Action Items

Table ES-1 provides a listing of recommendations and issues associated with environmental restoration, compliance, and technical/management action items that require further evaluation and implementation by the BRAC Cleanup Team (BCT)/Project Team. Bottom-up review program numbers specified in the Department of Defense BCP Guidebook which relate to each action item are identified in the table.

TABLE ES-1. BCT/PROJECT TEAM ACTION ITEMS

Action Item	Status		
	Program Review Item	In Progress	To Be Performed
COMPLIANCE ACTIVITIES			
Institute Removal Activities for Designated Underground Storage Tanks (USTs)	7		×
Define Groundwater Sampling Program for Site 12	7	×	
Complete Asbestos Housing Survey	7	×	
Expedite Retesting of Radon Sites	7	×	
Complete Lead-Based Paint Survey	7	×	

TABLE ES-1. BCT/PROJECT TEAM ACTION ITEMS**Continued**

Action Item	Status		
	Program Review Item	In Progress	To Be Performed
Address Unresolved Issues Related to Risk Assessment	24	×	
Complete Draft RI/FS	21	×	
Finalize Interim Action ROD; OU 1 and OU 2 RODs	21	×	
Update Fort Ord UST Management Program with Updates in State UST Program	21		×
Institute Acceleration Action Plan at Designated IRP Sites and OUs	21		×
MASTER SCHEDULE PROGRAM			
Refine Restoration Schedule to Accurately Reflect IRP Activities	17		×
COMMUNITY RELATIONS			
Continue with Community Relation Plan Activities	14	×	
MANAGEMENT AND ADMINISTRATIVE SUPPORT ACTIVITIES			
Establish Defense Environmental Network Information Exchange for Information Management and Transfer	21		×

This Page Intentionally Left Blank

CHAPTER 1

► INTRODUCTION AND SUMMARY ◀

The purpose of this Base Realignment and Closure (BRAC) Cleanup Plan (BCP) is to summarize the current status of the Fort Ord environmental restoration and associated environmental compliance programs and present a comprehensive strategy for implementing response actions necessary to protect human health and the environment. This strategy integrates activities being performed under both the Fort Ord Installation Restoration Program (IRP) and the associated environmental compliance programs to support full restoration of the installation. The BCP is a dynamic document that will be updated regularly to incorporate newly obtained information and reflect the completion or change in status of any remedial actions (RAs). This BCP was prepared with information available as of March 1994.

This BCP is a planning document. Information, schedules, and RA presented in this BCP do not necessarily represent those that have been or will be approved by the U.S. Army or federal and state regulatory agencies. It was necessary to make certain assumptions and interpretations to develop the schedule and cost estimates. As additional data become available, implementation programs and cost estimates could be dramatically altered. Such changes would then be reflected in future updates to the BCP.

Chapter 1 describes the objectives of the environmental restoration program, explains the purpose of the BCP, introduces the Project Team formed to review the program, and provides a brief history of the installation.

Chapter 2 summarizes the current status of the Fort Ord property disposal planning process and describes the relationship of the disposal process with other environmental programs.

Chapter 3 summarizes the current status and past history of the Fort Ord IRP and associated environmental compliance programs, community relations activities that have occurred to date, and the environmental condition of the installation property.

Chapter 4 describes the installation-wide strategy for environmental restoration, including the strategies for dealing with each operable unit (OU) on Fort Ord, and summarizes plans for managing responses under other compliance programs.

Chapter 5 provides master schedules of planned and anticipated activities to be performed throughout the duration of the environmental restoration program, including associated compliance activities.

Chapter 6 describes specific technical and/or administrative issues to be resolved and presents a strategy for resolving these issues.

Chapter 7 provides a list of primary references utilized in the preparation of the BCP.

In addition to the main text, the following appendices are included in this document:

- ▶ Appendix A - summary table of past, current, and projected costs for the environmental restoration program
- ▶ Appendix B - technical documents and data loading summary, listings of previous environmental restoration program deliverables by program and by site
- ▶ Appendix C - summaries of Decision Documents (DDs) for which an RA was selected
- ▶ Appendix D - summaries of each DD for each site or OU for which a no further action (NFA) decision has been made
- ▶ Appendix E - working conceptual models for sites, zones, or OUs
- ▶ Appendix F - other ancillary materials relevant to the BCP.

1.1 Environmental Response Objectives

The objectives of the Fort Ord installation closure environmental restoration program are as follows:

- ▶ Protect human health and the environment
- ▶ Strive to meet reuse goals established by the U.S. Army and the community
- ▶ Comply with existing statutes and regulations
- ▶ Conduct all restoration activities in a manner consistent with Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA)
- ▶ Meet Federal Facility Agreement (FFA) deadlines as detailed in Chapter 5 of this BCP
- ▶ Complete Community Environmental Response Facilitation Act (CERFA) report
- ▶ Continue efforts to identify all potentially-contaminated areas
- ▶ Incorporate any new sites into the FFA as appropriate
- ▶ Reestablish priorities for environmental restoration and restoration-related compliance activities so that property disposal and reuse goals can be met

- ▶ Initiate selected removal actions to control, eliminate, or reduce risks to manageable levels
- ▶ Identify and map the environmental condition of the Fort Ord property, concurrent with remedial investigation (RI) efforts
- ▶ Identify and map areas suitable for transfer by deed and areas unsuitable for transfer by deed
- ▶ Complete RIs as soon as practicable for each source area or OU, in an order of priority which takes into account both environmental concerns and redevelopment plans; consider future land use when characterizing risks associated with releases of hazardous substances, pollutants, contaminants, or hazardous wastes
- ▶ Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements
- ▶ Commence RAs for (1) environmental and (2) property disposal and reuse priority areas as soon as practicable
- ▶ Advise the real estate arm of the U.S. Army Corps of Engineers (USACE) of property that is deemed suitable for transfer and properties that are not suitable for transfer because they are either not properly evaluated or pose an unacceptable human health or environmental risk
- ▶ Conduct long-term RAs for groundwater and any necessary 5-year reviews for wastes left on site
- ▶ Establish interim and Long-Term Monitoring (LTM) plans of RAs as appropriate.

1.2 BCP Purpose, Updates, and Distribution

This BCP presents, in summary fashion, the status of Fort Ord's environmental restoration and compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities. It lays out the response action approach at the installation in support of installation closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The Fort Ord BCP Strategy and Schedule herein is designed to streamline and expedite the necessary response actions associated with the properties within Fort Ord in order to facilitate the earliest possible disposal and reuse activities. Risk assessment protocols will incorporate future land use in exposure scenarios.

The Fort Ord BCP will be updated at least annually or as needed (if substantial changes occur prior to the annual update). Updates of the BCP will be distributed to each member of the Fort Ord Project Team, as well as to additional individuals identified in Table 1-1.

TABLE 1-1. BCP DISTRIBUTION LIST

Name	Title	Address
Joseph Cochran	BRAC Environmental Coordinator (BEC)	Fort Ord Garrison ATTN: AFZW-DPW-ENR Fort Ord, CA 93941-5777
Mary Rose Cassa	BRAC Cleanup Team (BCT) Representative	
John Chesnutt	BCT Representative	
Gail Youngblood	Remedial Project Manager U.S. Army	Fort Ord, CA
Harvey Don Jones	Technical Project Manager USACE Sacramento District	
David Eisen	California Environmental Protection Agency (Cal EPA) - Regional Water Quality Control Board (RWQCB)	
Linda Temple	Environmental Engineer	Fort Ord, CA
Mark Reese	Environmental Protection Specialist	Fort Ord, CA
Joni Gerry	Cultural Resource Coordinator	Fort Ord, CA
John Snapp	BRAC Operations Officer	Fort Ord, CA
Bill Collins	Wildlife Biologist	Fort Ord, CA
Melissa Hlebasko	Environmental Protection Specialist	Fort Ord, CA
Don Smallbeck	Harding Lawson Associates	Harding Lawson Associates 105 Digital Drive P. O. Box 6107 Novato, CA 94948

1.3 BCT/Project Team

The Fort Ord Project Team consists of the BCT and additional individuals whom the BCT selects to assist in the environmental restoration process at Fort Ord. The Fort Ord BCT is led by the BEC (Mr. Joe Cochran). The BCT includes representatives of the U.S. Environmental Protection Agency (USEPA), Region IX, (Mr. John Chesnutt) and the Cal EPA, Department of Toxic Substances Control (DTSC) (Ms. Mary Rose Cassa). In accordance with the Fort Ord FFA, a representative of the RWQCB, Central Coast Region, also provided day-to-day oversight of the program. The representative of the RWQCB is Mr. David Eisen. Other key participants include representatives of the USACE, Sacramento District, Fort Ord Department of Public Works (DPW), Fort Ord Directorate of BRAC, federal, state, and local representatives, members of the community, and technical consultants. Project Team meetings are the means of conducting periodic program reviews and reaching consensus on decisions with

the U.S. Army, USEPA, and Cal EPA. Table 1-2 lists the current team members and specifies their roles and responsibilities.

For the purposes of establishing better communications and coordination among the BCT, Fort Ord intends to prepare and formalize a Partnering Agreement outlining the Team's main goals, as discussed in Chapter 6.

1.4 Installation Description and History

Fort Ord is located adjacent to Monterey Bay in northwestern Monterey County, California, approximately 80 miles south of San Francisco. The installation comprises approximately 28,000 acres adjacent to the cities of Seaside, Sand City, Monterey, and Del Rey Oaks to the south and Marina to the north. The Southern Pacific Railroad and Highway 1 pass through the western part of Fort Ord, separating the beach-front portions from the rest of the installation. Laguna Seca Recreation Area and Toro Regional Park border Fort Ord to the south and southeast, respectively. Land use east of Fort Ord is primarily agricultural, as was land use at Fort Ord before the U.S. Army acquired the property. Figure 1-1 shows the general location of the installation. Figure 1-2 shows surrounding land use.

Since its opening in 1917, Fort Ord has primarily served as a training and staging facility for infantry troops. No permanent improvements were made until the late 1930s, when administrative buildings, barracks, mess halls, tent pads, and a sewage treatment plant were constructed. From 1947 to 1975, Fort Ord was a basic training center. After 1975, the 7th Infantry Division (Light) occupied Fort Ord. Light infantry troops are those that perform their duties without heavy tanks, armor, or artillery. Fort Ord was selected for decommissioning in 1989, but troop reallocation was not completed until 1993. Although U.S. Army personnel still operate the installation, no active U.S. Army divisions are currently stationed at Fort Ord. A property acquisition summary is provided in Table 1-3. Historical activities conducted at the installation are outlined in Table 1-4.

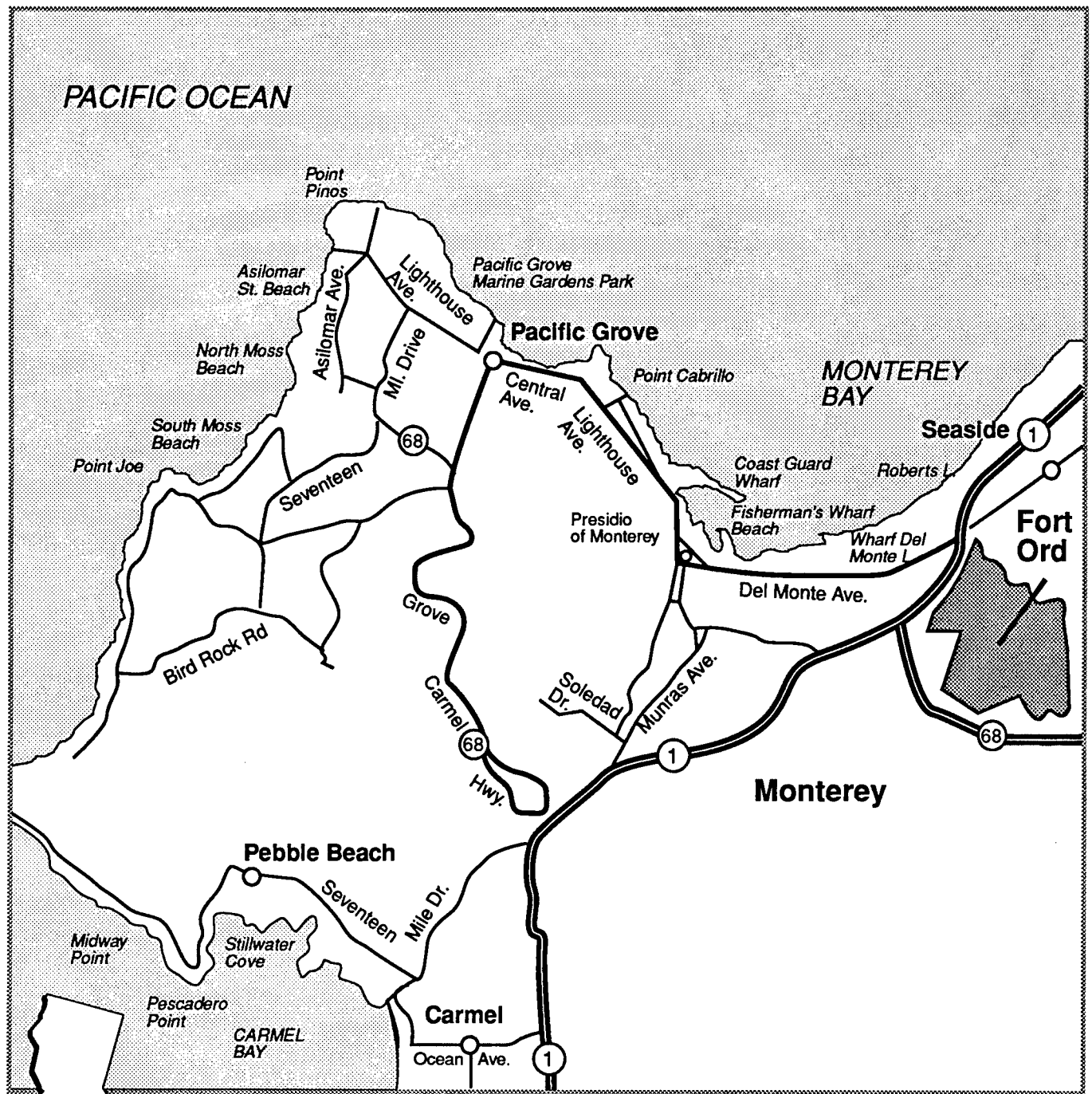
The three major developed areas within Fort Ord are the Main Garrison, Fritzsche Army Airfield (FAAF), and the East Garrison. The remaining approximately 20,000 acres of undeveloped property are used for training activities.

The Main Garrison contains commercial, residential, and light industrial facilities. Construction began in 1940 and ended in the 1960s, starting in the northwest corner of the installation and expanding southward and eastward. During the 1940s and 1950s, a small airfield was in the central portion of the Main Garrison. This airfield was decommissioned when FAAF was completed, and the earlier airfield facilities were redeveloped as motor pools or for other operations.

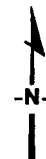
FAAF, which serves as the general airfield for Fort Ord, is in the northern portion of the installation, adjacent to the city of Marina. FAAF was originally outside the formal boundaries of Fort Ord but was incorporated into Fort Ord in 1960.

TABLE 1-2. CURRENT BCT/PROJECT TEAM MEMBERS

Name	Title	Phone	Role/Responsibility
BCT MEMBERS			
Joseph Cochran	BEC	(408) 242-4505	U.S. Army Project Manager
Mary Rose Cassa	BCT Representative	(510) 540-3818	Cal EPA - DTSC Project Manager
John Chesnutt	BCT Representative	(415) 744-2387	USEPA Project Manager
OTHER KEY PARTICIPANTS			
Gail Youngblood	Remedial Project Manager - U.S. Army	(408) 242-4505	Superfund Project Manager
Harvey Don Jones	Technical Project Manager - USACE, Sacramento District	(916) 557-7865	Contract Management and Oversight
David Eisen	Cal EPA - RWQCB	(805) 542-4636	RWQCB Project Manager
Linda Temple	Environmental Engineer	(408) 242-2729	Unexploded Ordnance (UXO)/CERFA/BRAC
Mark Reese	Environmental Protection Specialist	(408) 242-2743	Air/Asbestos/Radon/Lead-based Paint
Joni Gerry	Cultural Resource Coordinator	(408) 242-2738	Cultural/Historical Resource Coordinator
John Snapp	BRAC Transition Coordinator	(408) 242-0444	BRAC Liaison
Bill Collins	Wildlife Biologist	(408) 242-8002	Natural Resource Coordinator
Barb Schmidt	Underground Storage Tank (UST) Coordinator	(408) 242-2827	
Melissa Hlebasko	Environmental Protection Specialist	(408) 242-1296	
CONTRACTORS			
Don Smallbeck	Harding Lawson Associates	(415) 884-0112	Technical Support



General Location of
Fort Ord

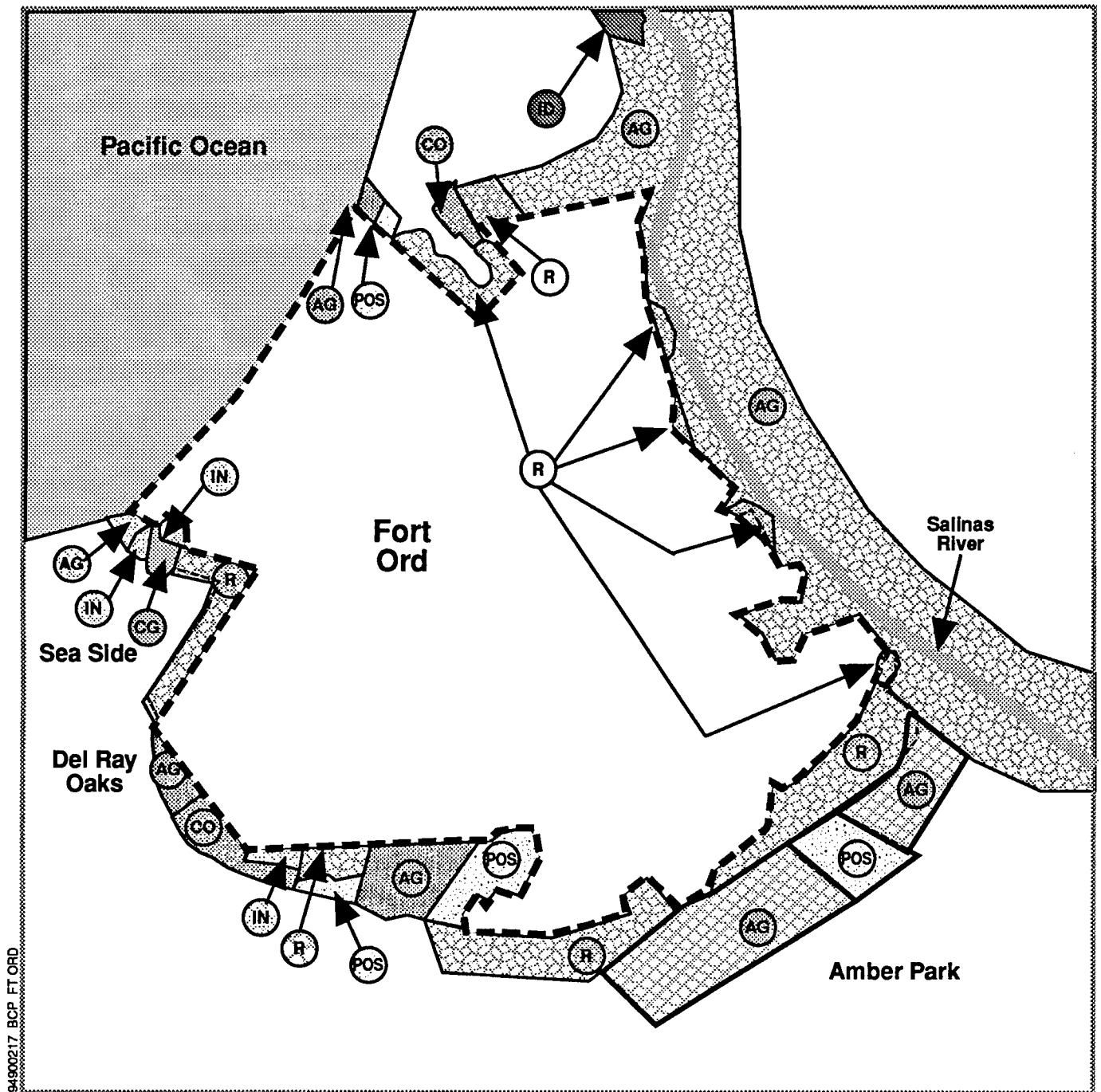


Scale in Miles



Figure 1-1

This Page Intentionally Left Blank



94900217 BCP FT ORD

EXPLANATION

- POS Public Open Space and Recreation
- R Residential
- CG Commerical General
- CO Commercial Office
- CR Commercial Residential, Industrial Mixed
- IB Industrial

- UT Utilities and Services
- AG Agricultural
- NRC Natural Resources Conservation
- UD Undeveloped
- IN Institutional

Installation Boundary

Surrounding
Off-Post
Land Use

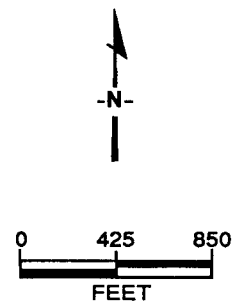


Figure 1-2

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Tract Number	Previous Land Owner	Acreage					Acquisition Date
		Fee Land	Leased	Easement Land	License	Permit	
123	Margaret A. Jacks, et al	0.96					4 February 1943
136	Wilma S. Merrill	24.95					7 July 1977
139-1	County of Monterey	20.805					10 August 1982
139-2	County of Monterey	14.48					10 August 1982
114-E	Thomas M. Merrill, et al			0.70			✓
115	Joel D. Warrington, et ux	0.14					14 November 1963
115-E	Joel D. Warrington, et ux			0.15			14 November 1963
116	Cornelia P. Thomas, et al	0.27					17 January 1964
116-E	Cornelia P. Thomas, et al			0.44			17 January 1964
116-E-2	Cornelia P. Thomas, et al			0.03			17 January 1964
117-L	County of Monterey				0.03		✓
A	Lee L. Jacks, et al	3,777.38					✓
B	County of Monterey	276.90					✓
C	T.A. Work and Maud E. Work	2,054.62					✓
D	T. A. Work and Maud E. Work	2.48					✓
E	Southern Pacific R.R. Co. and Southern Pacific Company					0.30	8 October 1943
G	Southern Pacific R.R. Co. and Southern Pacific Company				0.07		29 November 1944
O	Southern Pacific R.R. Co. and Southern Pacific Company				0.09		30 September 1942
T	Southern Pacific Company		0.04				20 April 1967
1	James T. Panziera, et al	241.49					✓
2	William M. Black, Jr., et al	402.57					✓
3	Charles Walter Bardin	405.63					✓
4	William L. Roberts	257.37					✓
5	Jesse L. Payne and Anna M. Payne	78.61					✓
6	Oliver P. Bardin and Ada May Bardin	380.60					✓
7	Benjamin Rush Bingaman	1,687.74					✓
8	Margaret A. Jacks, et al	602.08					✓
9	Luisa Guidotti, et al	2,036.39					✓
10	Maria Antonia Field	563.19					✓
11	Stephen Joseph Field		1,018.02				1 April 1944

Key: ✓ = Undocumented

TABLE 1-4. HISTORY OF INSTALLATION OPERATIONS

Period	Type of Operation	Weapons Systems	Hazardous Substance Activities	Map Reference (see Figure 1-3)
1917-1933	Gigling Field Artillery Range, maneuver area, field artillery target range	TBD	TBD	TBD
1933-1940	Camp Ord maneuver area, field artillery target range, administration barracks	TBD	TBD	TBD
1940-1947	Fort Ord, maneuver area, field artillery target range, administration barracks	TBD	TBD	TBD
1947-1974	Fort Ord, training post for infantry soldiers, administration barracks	TBD	TBD	TBD
1974-present	Fort Ord, Headquarters for 7th Infantry Division including various support operations	TBD	TBD	TBD

Key: TBD = To Be Determined

The East Garrison occupies 350 acres on the northeastern edge of the installation and consists of military and industrial support areas, recreational facilities, and recreational open space.

1.5 Environmental Setting

Climate. The Fort Ord climate is characterized by warm dry summers and cool rainy winters. The Pacific Ocean provides fog and onshore winds that moderate temperature extremes. The average annual temperature ranges from a low of 45.9 to a high of 67.1°F. Nearly 90 percent of the 21.7 inches of normal precipitation falling in the area annually occurs between November and March.

Physiography. Elevations at Fort Ord range from approximately 900 feet near Impossible Ridge to sea level at the beach. The topography of the western and northern portions of the installation, comprising most of the installation area, reflects a morphology typical of the sand dune deposits that underlie these areas. In these areas, the ground surface slopes gently west and northwest, draining toward Monterey Bay. Runoff is minimal due to high rates of surface water infiltration into the permeable older dune sand which covers much of the installation area; consequently, well-developed natural drainages are absent throughout much of this area. Typical of dune topography, closed drainage depressions are common.

The topography in the southeastern third of the installation is notably different from the rest of Fort Ord. This area has relatively well-defined, eastward-flowing drainages within narrow, moderate to steeply sloping canyons. Runoff is into the Salinas Valley.

Geology and Soils. Fort Ord is located within a geologically complex area in the central California Coast Ranges. The region is underlain, starting with the deepest known formations and moving up to the ground surface, by one or more of the following units: Mesozoic granodiorite; Miocene marine siltstone and shale of the Monterey Formation; upper Miocene to lower Pliocene sandstone of the Santa Margarita Formation; upper Pliocene to Pleistocene alluvial fan, lake, and flood deposits of the Paso Robles Formation; and the Aromas Sand, a Pleistocene sand and gravel unit. Above these units, unconsolidated gravel, sand, silt, and clay (including the Salinas Valley Aquiclude) are present. Overlying these sediments are dune sand deposits.

Soils present at Fort Ord are generally derived from alluvium and are excessively drained, moderately erosive, and extremely low in nutrients. Fort Ord contains at least 17 soil types that support a mosaic of plant communities. The four most prevalent soil types are the Arnold soils (east-central area, firing ranges) and Baywood soils (southeast area near Seaside), both of which support chaparral; Oceano soils (Main Garrison, FAAF), which supports dune scrub and oak woodland; and Santa Ynez soils (southeast area), which supports extensive grasslands. Soils also associated with grasslands include Antioch soils (mounded grasslands south of the East Garrison) and Aquic Xerofluvents soils (grasslands near Mudhen Lake). Dune Land soils (beach firing ranges) are either barren or support vegetation specially adapted to the shifting substrate. Xerothents soils (southeast) support chaparral and oak woodland communities. Metx soils on river terraces (Salinas River) support riparian woodland vegetation. Clear Lake and Mocho soils (Pilarcitos Canyon) are used for agricultural purposes. Minor inclusions of several other soil

types occur along the southeastern boundary of the installation including Chamise, Diablo, Hanford, Linne, Psammets, and San Benito soils that support a mix of grassland, scrub, and woodland vegetation.

Hydrogeology. The Salinas Basin and the Seaside Basin are the two main hydrogeologic structures underlying Fort Ord. The Salinas Basin underlies approximately the northern one-third part of Fort Ord; the Seaside Basin underlies approximately the southern two-thirds of the installation. The location and characteristics of the boundary between these two basins are uncertain.

Groundwater flow directions in the 180- and 400-foot aquifers vary across the installation. Historical data suggest that flow was originally to the northwest in both aquifers. However, recent data indicate that groundwater flow in these aquifers is to the east as a result of pumping from Salinas Valley and Fort Ord supply wells. Current and historical pumping has resulted in salt water intrusion into the 180- and 400-foot aquifers in the vicinity of the City of Marina and the Fort Ord Main Garrison.

In the area of Fort Ord, four relatively well-defined aquifers are within the Salinas Basin: the unconfined A-aquifer and the confined 180-, 400-, and 900-foot aquifers. The latter three aquifers were originally named to reflect their average depths in the Salinas Valley; however, these aquifers are generally deeper at Fort Ord than in the Salinas Valley.

The A-aquifer is separated from the 180-foot aquifer throughout much of Fort Ord by the Salinas Valley Aquiclude (SVA). This aquiclude becomes thinner and apparently disappears ("pinches out") in some areas west of the Main Garrison and near the southern Salinas Basin boundary, resulting in pathways for water movement between the A- and 180-foot aquifers. Groundwater flow in the A-aquifer is significantly influenced by the configuration of the top of the SVA. Where the SVA pinches out beneath the Main Garrison area, groundwater appears to flow from the upper A-aquifer into the 180-foot aquifer.

1.6 Hazardous Substances and Waste Management Practices

A variety of activities involving the handling of hazardous substances and generation of listed hazardous wastes, petroleum, oil, and lubricant (POL) wastes and other waste materials have occurred at the installation throughout its history. Some of these activities include fueling and vehicle maintenance, medical treatment, weed/pest control and water treatment. These activities are listed in Table 1-5. A composite map illustrating the various locations is being developed on the installation where these activities occurred. Future updates will be provided in Table 1-5 and Figure 1-3.

An inventory of hazardous wastes generated in the past at Fort Ord was unavailable as of the writing of this report. Waste quantities and their generation rates will be discussed in this section when information is provided.

Past solid waste disposal practices at Fort Ord occurred at two landfills located on the installation. The landfills were used for 30 to 35 years for residential and commercial waste

TABLE 1-5. HAZARDOUS WASTE GENERATING ACTIVITIES

Facility	Unit	Activity	Name of Waste Material	Generation Rate	Disposition
DOL Maintenance Division	--	Routine maintenance	NA	NA	NA
DPCA Golf Maintenance	--	Weed/rodent control	Waste pesticides and herbicides	NA	NA
124th ARCOM Motor Pool	--	Vehicle Maintenance	Waste oil, waste antifreeze	NA	NA
SBACH DHS/MEDDAC Hospital	--	Medical Treatment	Infectious waste Pathological waste Photographic waste (waste acetic acid) Waste toner/developer Radioactive waste (Ga-67, I-123, 6-57, Tl-201, I-125)	NA	Autoclave (Building 1442) Hays Hospital (Building 4385) Diluted and disposed to sanitary sewer Recycled Screened and Incinerated
O/M, Hospital Support Branch	--	Medical Treatment	Infectious waste Pathological waste Photographic waste (waste acetic acid) Waste toner/developer Radioactive waste (Ga-67, I-123, 6-57, Tl-201, I-125)	NA	Autoclave (Building 1442) Hays Hospital (Building 4385) Diluted and disposed to sanitary sewer Recycled Screened and Incinerated
AAFES Service Center	--	Fueling	POL	NA	NA
DENTAC Burke	--	NA	NA	NA	NA
DOL Consol Property/ISSD	--	NA	NA	NA	NA
DPW Bldgs. 4885/4855	--	Water Treatment	NA	NA	NA

Key: NA = Not Available

**Information on the locations of past
hazardous
substance activities is being
assessed for map development**

EXPLANATION

Locations of Past
Hazardous
Substance Activities

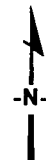


Figure 1-3

disposal. The north landfill was used from 1956 to 1966 and was closed to waste disposal when the main landfill began operating. The main landfill was operated from 1960 until 1987 and may have received a small amount of chemical waste along with household and commercial refuse. The main landfill facility stopped accepting waste for disposal in May 1987 because of the initiation of interim closure of the facility.

1.7 Off-Post Property/Tenants

Off-Post Properties. Fort Ord maintains three off-post properties. Two of the properties are located in Monterey. The other larger property is located in Santa Barbara County. The status of the off-post property under installation control is summarized in Table 1-6. Figure 1-4 is provided when additional information regarding the exact locations and boundaries of the off-post properties becomes available.

TABLE 1-6. OFF-POST PROPERTIES

Description	Acreage	Date of Acquisition	Environmental Status	Location	Remarks
U.S. Disciplinary Barracks - Security Site/Camp	2,959.19	1947	Unevaluated	Santa Barbara County	Permitted to the Department of Justice in 1959. It is recommended that the entire facility be excessed by the U.S. Department of Army (DOA) and conveyed to the Department of Justice.
Administrative Structure/Other	0.70	1947	No suspected contamination	Monterey, California	1.00 acres outgranted
Schools/centers - Advanced Training	392.10	1900	No suspected contamination	Monterey, California	88 permanent, 30 semi-permanent and 88 temporary buildings. 1.00 acres of area outgranted.

Tenant Units. Table 1-7 is provided to list the significant non-U.S. Army organizations on the installation that were identified from installation real property records.

TABLE 1-7. ON-POST TENANT UNITS

Tenant	Building
Service Stations Main North - South Road	4220
Auto Access Store	4220
Gate Station	1060
POM Service Station	S-230
FHL Service Station	
Taxi	1895
Greyhound Bus	1917
Optical Express	4235

TABLE 1-7. ON-POST TENANT UNITS**Continued**

Tenant	Building
Rent-All Fort Ord	2798
General Patton School	350 Rendova Road
George C. Marshall School	Carentan Road
Gladys Stone School for Mental Retarded	351 Rendova Road
Joseph W. Stilwell School	Normandy
Roger S. Fitch Junior High School	N.S. Rd. & Anza
Seaside High School	Noche Buena
Thomas H. Hayes School	Coe Avenue
A&G Appliances	
Airlines Ticket Office	3877
Bank of America	3880
Burger King	
Consolidated Package Beverage Branches:	
Main Building	2531
NCO Club	4260
POM	263
Credit Unions Fort Ord	4242
Credit Unions POM	263
DET 7 5th WX SQDN	518
Det. Commander	518
Staff Weather Officer	518
Cadre Weather Team	518
Forecaster	518
Weather Observer	518
AF Weather Equip. Maintenance	1A134
USAF Det 5, 602D TAC Air CTLWG, Commander	2832
USAF Det 5, 602D TAC Air CTLWG, First Sergeant/Orderly Room	2832
USAF Det 5, Air Liaison Officers	2832
USAF, Operations/NCOIC (TACPs)	4518A
USAF, Maintenance/NCOIC	2832
USAF, Close Air Support Coordination	2832
USAF, Tactical Airlift Liaison Officer	2832

**There are Off-post properties
associated with Fort Ord.
A map showing these properties is
being developed**

EXPLANATION

Off-Post Properties

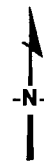


Figure 1-4

CHAPTER 2

► PROPERTY DISPOSAL AND REUSE PLAN ◀

This chapter describes the status of the disposal planning process at Fort Ord and the relationship between the disposal process and environmental programs at the installation. It also identifies property transfer methods being utilized or considered in the disposal process.

2.1 Status of Disposal Planning Process

The disposal of Fort Ord involves three interrelated activities: the National Environmental Policy Act (NEPA) documentation process, development of a disposal plan, and development of a community reuse plan. The disposal plan and the environmental impact statement (EIS) are the responsibility of the U.S. Army. The reuse plan is the responsibility of the Fort Ord Reuse Group (FORG). To date, only the EIS process has been completed for Fort Ord.

NEPA Documentation. The U.S. Army initiated a Disposal and Reuse EIS in late 1991 and filed a Notice of Intent for conducting the EIS on February 13, 1992. On December 23, 1993, the U.S. Army signed the EIS Record of Decision (ROD). In preparing the EIS, the U.S. Army considered the environmental impacts of the disposal and reuse associated with the closure of Fort Ord, consistent with requirements of NEPA.

Disposal Plan. Because some conflicts remain between the U.S. Army's selected alternative and the local community's reuse plan, the U.S. Army has committed to continue to work closely with representatives and citizens from the local communities to resolve these issues. Additionally, the U.S. Army has committed to develop, if necessary, additional environmental analysis following the EIS ROD to address the impacts of other reuse alternatives. In addition to the parcels slated for disposal, the U.S. Army will establish a Presidio of Monterey Annex on a small part of Fort Ord. The Annex will support the Defense Language Institute, the Postgraduate School, and the Coast Guard. The FORG is now reviewing the plan for that Annex.

Reuse Plan. The cohesive local reuse organization, FORG, was formally established on October 10, 1992. On March 24, 1993, FORG submitted its Initial Base Reuse Plan to the U.S. Army. Because the FORG plan was submitted to the U.S. Army after February 22, 1993, the deadline for receipt of comments on the Draft EIS, the FORG plan could not be included in the Final EIS as a separate alternative without missing submittal dates mandated by Congress. However, as noted above, the U.S. Army is committed to conducting additional environmental analysis if necessary to accommodate the local community's reuse plan.

The FORG plan states that the U.S. Army plans to keep as much as 2,000 acres of Fort Ord for its Presidio of Monterey Annex to support the Defense Language Institute, the Naval Postgraduate School, the Coast Guard, and troops in the area. Another 2,400 acres will go to university uses through a recent act of Congress. The California State University system will

obtain approximately 1,300 acres to establish a Monterey Bay campus. The University of California will obtain approximately 1,100 acres, in addition to a 400-acre landfill research area, to establish a technology center associated with the University of California at Santa Cruz. There will also be land for other schools and facilities and more than 16,000 acres will be committed to nature preserves and habitat resource management. Approximately 3,000 acres will be available for private development.

In 1993, legislation was introduced to establish a local reuse authority for Fort Ord. This state-appointed agency would replace FORG as the local reuse group responsible for planning and prioritizing future development options. The schedule for determining if FORG will be replaced as the local reuse authority is currently unknown. Modifications to the parcel configurations shown in Figure 2-1 based on continuing evolution of the FORG plan or as a result of changes in the local reuse authority, if any, will be considered by the U.S. Army during the process of property disposal.

The configuration of reuse parcels is presented in Figure 2-1. These reuse parcels were developed with input from the local communities (FORG Reuse Plan). The boundaries shown in Figure 2-1 are approximate because property surveys have not been completed. However, parcel boundaries will be surveyed prior to transfer. The current parcel boundaries are in transition, but they are adequate for planning purposes, including the assessment of environmental conditions existing within each reuse parcel. FORG identified approximately 75 parcels based on the local community's goal for redevelopment of the area following Fort Ord's closure. Except for some minor deviations, these parcels were included in the EIS. Based on the parcels identified in the FORG plan and evaluations conducted in the EIS, the U.S. Army has identified 18 high-priority parcels for early release. The schedule for release of these parcels and those remaining is under development.

2.2 Relationship to Environmental Programs

Disposal and reuse activities at Fort Ord are intimately linked to environmental investigations, restoration, and compliance activities for two basic reasons:

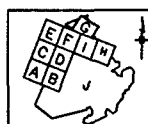
- ▶ Federal property transfers to nonfederal parties are governed by CERCLA Section 120(h)(3)(B)(i).
- ▶ Residual contamination may remain on certain properties after remedial actions have been completed or put into place, thereby restricting the future use of those properties.

CERCLA Section 120(h)(3)(B)(i) requires deeds for federal transfer of previously-contaminated property to contain a covenant that all remedial actions necessary to protect human health and the environment have been taken. CERCLA also requires that deeds for property on which a hazardous substance was stored, for more than one year, released or disposed, include information on the type, quantity, and the time at which the storage or release occurred. CERCLA provided clarification to the phrase "has been taken." This clarification states that all

EXPLANATION

- 29 Reuse Designation
- Reuse Boundary
- Installation Boundary

Disposal and Reuse Parcels



Locus Map
Section J

A horizontal scale bar with tick marks at 0, 3500, and 7000 feet. The word "FEET" is centered below the bar.

Figure 2-1

remedial action has been taken if the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the Administrator to be operating properly and successfully. It further states that the carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the Administrator to be operating properly and successfully, does not preclude the transfer of the property. Thus, any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfers to private parties can occur.

The requirement for complying with CERCLA 120(h) and the possibility of residual contamination are factored into the property disposal and reuse process at Fort Ord. Table 2-1 takes these two factors into consideration, and presents summary information on the 75 reuse parcels and an approximate timetable for transfer by deed of each parcel at Fort Ord.

The Fort Ord strategy and schedule herein is designed to streamline and expedite the necessary response actions associated with the reuse parcels in order to facilitate the earliest possible disposal and reuse activities. Because of the need to delineate between areas suitable for transfer and those which are not, the BCT has developed an environmental-condition-of-property map for Fort Ord (see text and figures in Chapter 3.4) using, in part, data from the CERFA investigation of the installation. This environmental-condition-of-property map allows the visualization of potentially contaminated areas and areas of no suspected contamination, and the relationship of these areas to disposal and reuse parcels.

CERFA established stringent requirements to designate a parcel as a CERFA "clean" parcel. At Fort Ord, a number of acres while not classified as CERFA "clean" present no threat to human health and the environment and will be available for transfer. The BCT will continue to update and refine the environmental condition-of-property and property suitable for transfer maps for Fort Ord.

2.3 Property Transfer Methods

The various property transfer methods being utilized or considered in the disposal process at Fort Ord are described in this section. Transfer methods which may not be currently applicable but which may be considered in future disposal planning actions at the installation are identified below.

2.3.1 Federal Transfer of Property

At this time it is possible that a federal transfer of property at Fort Ord via the Stewart B. McKinney Homeless Assistance Act could occur. The federal screening process is still in progress. Should a homeless provider wish to use the property within the scope of the Act, then a federal transfer could occur.

2.3.2 No-Cost Public Benefit Conveyance

As of March 1994, there are no plans for transfer actions using public benefit conveyance. In the event that a no-cost public conveyance property transfer mechanism is identified in the future, the U.S. Army will consider such a transfer.

TABLE 2-1. REUSE PARCEL DATA SUMMARY

Reuse Parcel	Acres	Priority	Description and Proposed Reuse	Known Sites	Projected Transfer Date	Transfer Mechanism	Recipient
1a	390		FAAF - Airport	OU 1 and Sites 34, 40	11/97	TBD	City of Marina
1b	130		FAAF - Habitat Preservation		11/97	TBD	City of Marina
1c	255		FAAF - Business Park		11/97	TBD	City of Marina
1d	7		FAAF - Habitat Preserve		11/97	TBD	City of Marina
1e	44		FAAF - Habitat Preserve	Site 36	11/97	TBD	City of Marina
1f	58		FAAF - Business Park		11/97	TBD	City of Marina
2a	113		FAAF - Retail		11/97	TBD	City of Marina
2b	334		FAAF -High Residential/Central Business District	Sites 12, 13, 19, 26, 28	11/97	TBD	City of Marina
2c	111		FAAF - Business Park		11/97	TBD	City of Marina
2d	82		FAAF - Retail	Site 25	11/97	TBD	City of Marina
2e	40		FAAF - Corporation Yard	Site 18	11/97	TBD	City of Marina
2f	7		FAAF - Bus Transfer Center	Site 15	11/97	TBD	City of Marina
3	30		FAAF - Community College		11/97	TBD	City of Marina
4	665		FAAF - Low Density Residential		11/97	TBD	City of Marina
4a	16		FAAF - School		11/97	TBD	City of Marina
5a	59		FAAF - Retail		11/97	TBD	City of Marina
5b	5		FAAF - Retail		11/97	TBD	City of Marina
5c	25		FAAF - Habitat Preserve		11/97	TBD	City of Marina
6a	12		Army Reserve Training Center - Retail Commercial		11/97	TBD	County
6b	39		Army Reserve Training Center - Habitat Preservation	Site 26	11/97	TBD	County
7a	284		Army Reserve Training Center - University Science Office		11/97	TBD	County
7b	346		Army Reserve Training Center - University Research Area	Site 35	11/97	TBD	City of Marina
7c	139		Army Reserve Training Center - University Office		11/97	TBD	City of Marina
8a	352		Landfill - Landfill Research Area	OU 2	11/97	TBD	County
8b	37		Landfill - University Office	Site 14	11/97	TBD	City of Marina
8c	20		Landfill - Bus Transfer Center		11/97	TBD	City of Marina
9a	161		Landfill- University Research Area		11/97	TBD	County
9b	46		Landfill - University Science/Office	Site 27	11/97	TBD	County
10	410		Landfill - University		11/97	TBD	County
10a	7		Landfill - Elementary School		11/97	TBD	County
11a	174		Landfill - Habitat Preservation		11/97	TBD	County
11b	734		Landfill - Agricultural Center	Sites 29, 30, 31, 32, 41	11/97	TBD	County
12a	go to 14b		Landfill - Coastal Dune Zone	Site 1	11/97	TBD	County
Total 12b	go to 14b		Landfill - Parks and Recreation	Sites 3, 4	11/97	TBD	County

TABLE 2-1. REUSE PARCEL DATA SUMMARY

Continued

Reuse Parcel	Acres	Priority	Description and Proposed Reuse	Known Sites	Projected Transfer Date	Transfer Mechanism	Recipient
13	50		Sewage Treatment Plant - Agriculture/Marine Research Center	Site 2	11/97	TBD	County
14a	57		Stilwell Hall - Multiuse Area		11/97	TBD	County
14b	929		Stilwell Hall - Service Area		11/97	TBD	County
14c	go to 14a		Sewage Treatment Plant - Desalinization Plant		11/97	TBD	County
15	147		Sewage Treatment Plant - Commercial Business		11/97	TBD	City of Seaside
Total 16	853		Sewage Treatment Plant - University	Sites 10, 16, 17, 20, 21, 22, 23, 24, 36, 38	11/97	TBD	Sea/Mar/County
17a	58		Sewage Treatment Plant - Parks and Recreation		11/97	TBD	County
17b	458		Travel Camp - Parks and Recreation		11/97	TBD	County
18	110		Travel Camp - Office Park		11/97	TBD	City of Seaside
19a	778		Travel Camp - Light Industrial		11/97	TBD	County
19b	91		Army Motor Pool - Army Motor Pool		11/97	TBD	County
20a	194		Army Motor Pool - Medium Density Residential		11/97	TBD	City of Seaside
20b	97		Army Motor Pool - Medium Density Residential		11/97	TBD	City of Seaside
20c	313		Army Motor Pool - Medium Density Residential		11/97	TBD	City of Seaside
20d	35		Army Motor Pool - Institutional		11/97	TBD	City of Seaside
20e	85		Army Motor Pool - Office Park		11/97	TBD	City of Seaside
20f	50		Army Motor Pool - School		11/97	TBD	City of Seaside
20g	96		Army Motor Pool - High Density Residential		11/97	TBD	City of Seaside
20h	779		Army Motor Pool - Army Enclave	Site 11	11/97	TBD	City of Seaside
20i	16		School - School	Site 37	11/97	TBD	City of Seaside
20j	8		School - School		11/97	TBD	City of Seaside
20k	27		School - School		11/97	TBD	City of Seaside
21a	133		School - Medium/High Density Residential		11/97	TBD	County
21b	362		School - Light Industrial		11/97	TBD	County
21c	14		School - Habitat Preserve		11/97	TBD	County
22	404		Golf Course - Golf Course	Site 33	11/97	TBD	City of Seaside
23	91		Golf Course - Resort Hotels		11/97	TBD	City of Seaside
24	121		Golf Course - Office Park		11/97	TBD	City of Seaside
Total 25	15,070		Ranges - Natural Resources Management Area	Sites 5, 6, 7, 8, 9, 39	11/97	TBD	County
26	38		Military Operations Urban Terrain Facility - Law Enforcement Training		11/97	TBD	County

TABLE 2-1. REUSE PARCEL DATA SUMMARY**Continued**

Reuse Parcel	Acres	Priority	Description and Proposed Reuse	Known Sites	Projected Transfer Date	Transfer Mechanism	Recipient
29a	270		Military Operations Urban Terrain Facility - Office Park		11/97	TBD	County/DRO
29b	92		Military Operations Urban Terrain Facility - Corporation Yard		11/97	TBD	County/ Monterey
29c	30		Military Operations Urban Terrain Facility - Office Park		11/97	TBD	County/ Monterey
29d	25		Military Operations Urban Terrain Facility - Office Park		11/97	TBD	County/ Monterey
29e	20		Military Operations Urban Terrain Facility - Community Park		11/97	TBD	County/ Monterey
30a	245		Military Operations Urban Terrain Facility - Parks and Recreation		11/97	TBD	County
30b	189		Military Operations Urban Terrain Facility - Parks and Recreation		11/97	TBD	County
30c	136		Military Operations Urban Terrain Facility - Parks and Recreation		11/97	TBD	County
31a	15		Military Operations Urban Terrain Facility - Natural Area Expansion		11/97	TBD	County/DRO
31b	18		Military Operations Urban Terrain Facility - Office Park		11/97	TBD	County/DRO
32	87		Military Operations Urban Terrain Facility - School Expansion		11/97	TBD	County

Key: TBD = To Be Determined

2.3.3 Negotiated Sale

As of March 1994, there are no plans for transfer actions through a negotiated sale. In the event that a negotiated sale property transfer mechanism is identified in the future, the U.S. Army will consider such a transfer.

2.3.4 Competitive Public Sale

As of March 1994, there are no plans for transfer actions through competitive public sales. In the event that a competitive public sale property transfer mechanism is identified in the future, the U.S. Army will consider such a transfer.

2.3.5 Widening of Public Highways

As of March 1994, there are no plans for transfer actions through widening of public highways. In the event that a public highway easement need is identified in the future, the U.S. Army will consider such a transfer.

2.3.6 Donated Property

As of March 1994, there are no plans for transfer actions through donation of property. In the event that a donated property transfer mechanism is identified in the future, the U.S. Army will consider such a transfer.

2.3.7 Interim Leases

Existing legal agreements/interim leases are provided in Table 2-2.

TABLE 2-2. EXISTING LEGAL AGREEMENTS/INTERIM LEASES

Title Interim Lease/Legal Agreement	Building No./Areas	Date of Agreement	Reuse Parcel
Federal Aviation Administration - Permit	Use of 10 feet × 10 feet plot of ground for target indicator	23 November 1973 to 7 August 1995	
Monterey Salinas Transit - License	To install bus shelters at 6 separate bus stops	1 September 1979 to 31 August 1994	
Department of Air Force for and in Behalf of Civil Air Patrol - Permit	To use and occupy Building No. T-1995	5 February 1980 to 4 February 1995	
Civil Air Patrol - License	To use and occupy Building No. T-1995	5 February 1980 to 4 February 1995	
U.S. Department of Commerce, National Oceanographic and Atmospheric Administration - Permit	To install, operate, and maintain a geodetic station	1 July 1981 to 30 June 1996	
Stanley Rice - License	Non-exclusive use	1 June 1984 to 31 May 1994	
Roeder RINC - Lease	Mobile Home Park (200)	15 April 1985 to 14 April 2010	
Fort Ord Officers Wives Club - License	Use of Buildings T-1976 and T-1996	1 June 1985 to 31 May 1995	
Pacific Gas and Electric - Easement	R/W for gas pipe-line	8 November 1985 to 7 November 1995	
Department of Transportation , Federal Aviation Administration - Permit	Radar Facility	26 May 1989 to 25 May 1994	
Department of the Navy, Naval Post Graduate School - Permit	Doppler Radar Facility	7 September 1989 to 6 September 1994	

CHAPTER 3

► INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS ◀

This section provides a summary of the current status of environmental restoration projects and ongoing compliance activities at Fort Ord. It also summarizes the status of the (natural and cultural) resources program, community involvement to date, and describes the environmental condition and suitability for transfer of the installation property.

3.1 Environmental Program Status

On 21 February 1990, Fort Ord was placed on the National Priorities List (NPL). As a result, the installation entered into a FFA to facilitate cleanup of environmental contamination. The FFA is a legal agreement which is binding between USEPA (Region IX), the California Department of Health Services (DHS), California RWQCB, and the U.S. Army. The agreement requires that the U.S. Army investigate and remediate Fort Ord according to CERCLA guidance. These activities have resulted in many investigations and reports documenting potential and confirmed areas of environmental contamination.

The Enhanced Preliminary Assessment (ENPA), conducted in June 1990, revealed 61 areas requiring environmental evaluation (AREEs). Table 3-1 lists the 61 AREEs and environmental investigation report results. For Fort Ord, the FFA identified two OUs and 41 sites for further investigation. Currently, OU 1 (a former Fire Drill Area) is in the RA/monitoring phase. Soil has been remediated and groundwater remediation will continue for several years. OU 2 is in the remedial investigation/feasibility study (RI/FS) phase. Since the installation-wide RI/FS began in 1991, 41 sites have been targeted for site investigation activities. After Phase I site characterization, 16 of these sites have been recommended for no further action. Eleven sites have been recommended for interim action for source removal. The remainder of the sites will be evaluated in the RI/FS report scheduled for completion by December 1994. Closure of the Fort Ord installation is projected for October 1, 1997.

3.1.1 Restoration Sites

The restoration effort at Fort Ord was initiated in the mid-1980s under the U.S. Army IRP. Table 3-2 includes all the NPL sites that have been or are being investigated as part of the environmental restoration program at Fort Ord. These sites have been further defined in the CERFA report (December 6, 1993). The Department of Defense (DoD) Restoration Management Information System (RMIS) site numbers are provided in Table 3-2 for sites where the data is available. The RMIS database tracks the status of IRP activities initially funded under the Defense Environmental Restoration Account from the identification stage to completion of RAs and development of no further response action planned (NFRAP) documentation. The restoration sites located at Fort Ord are shown in Figure 3-1.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

AREE Number	AREE Description	Environmental Investigation Report Results/Findings						Final Determination
		OU/Site No.	PA	SI	RI	FS	Findings	
1	Burn Pit (FAAF Fire Training Pit)	OU 1	✓	✓	✓	✓	Soil treatment using bioremediation. Remedial action (RA) for contaminated groundwater - granular activated carbon.	Remediation confirmation study indicated that soil remediation efforts were successful. Groundwater RA is adequate and effective. Groundwater remediation expected to continue after site closure.
2	Main Garrison Landfill	OU 2	✓	✓	✓	✓	Soils below the landfills are relative free of contamination. However, TCE was detected in the highest concentration (80 ppb) in the upper aquifer (50-100 ft bgs). In the 180-ft aquifer (100-300 ft bgs), TCE was detected at 50 ppb. Other VOCs have also been detected.	The draft ROD for OU 2 dated 1/10/94 specifies the selected remedy which has not been instituted. The selected remedy includes capping the landfill, and installing 10 pumping wells in the upper aquifer and one pumping well in the 180-ft aquifer (Interim Action (IA)) for control of the plume. Water from both aquifers will be treated by GAC, then recharged to the subsurface.
3	Sanitary Wastewater Treatment (FAAF STP)	36	✓	✓			Undetectable chemical contamination.	No further action planned.
4	Maintenance Shop (707th Maint. BN)	14	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.
5	Maintenance Shop (13th ENGR BN)	22	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.
6	Maintenance Shop (Building 527)	34	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.
7	Cannibalization Area	12	✓	✓	✓		Groundwater greater than 100 ft bgs. Groundwater analyzed contained PCE, TCE, and 1,2-DCE above cleanup standards. Limited soil testing under Phase I RI. Lead detected above cleanup standards. Soil quality beneath 20 ft has not been evaluated. Inadequate assessment of potential sources.	Proceed with Phase 2 RI. Perform a soil gas survey and soil sampling program. Perform a groundwater monitoring program that might involve the installation of additional wells.
8	DRMO Hazardous Waste Storage Area	29	✓	✓			Soil affected by metals and hydrocarbons but minimal risk presented. No PCBs detected.	No further action planned.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

AREE Number	AREE Description	Environmental Investigation Report Results/Findings						Final Determination
		OU/Site No.	PA	SI	RI	FS	Findings	
9	PCB-Containing Waste Area (Building 111)	29	✓	✓			No PCBs detected in soil.	No further action planned.
10	USTs (AAFES)	11	✓	✓			Chemical contamination does not present an unacceptable health risk.	Will be addressed under Fort Ord UST program.
11	Sanitary Wastewater Treatment (East Garrison STP)	32	✓	✓			Undetectable organic contamination. Inorganic contamination below established risk-based levels.	No further action planned.
12	Sanitary Wastewater Treatment (Main Garrison STP)	2	✓	✓	✓		Phase I RI results negate previous investigations that the PCE and TCE contamination in the groundwater is attributed to past activities at this location.	Not necessary to proceed with Phase 2 RI.
13	Medical Facilities (Autoclave Area, Building 1442)		✓					Infectious medical waste managed by autoclave (still operable).
14	Burn Pit (Fire Training Area)	10	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.
	PCB-Containing Waste Storage Area		✓					
16	Open Detonation Area	5	✓	✓			Soil samples contained low concentration of explosive compounds and various metals.	Additional investigations will be conducted as part of Site No. 39.
17	TASC Plastics Shop	18	✓	✓			Chemical contamination does not present an unacceptable health risk.	No further action planned.
18	Pesticide Mixing and Storage Area	33	✓	✓			Incomplete	None
19	Dry Cleaning Shop	17, 38	✓	✓			Undetectable chemical contamination.	No further action planned.
20	Incinerator (Building 4385)		✓					Incinerates pathological waste and non-infectious type waste. Ash taken to commercial landfill.
21	Medical Facilities (Silver Recovery Unit Building 4385)		✓				Effluent from the silver recovery system exceeds established guidelines for cadmium and lead. Spills of undiluted acetic acid have stained the concrete floor next to the system.	No further action planned.
22	Former DRMO Storage Area	25	✓	✓			Chemical contamination does not present an unacceptable health risk.	No further action planned.
23	TASC Graphics Shop	18	✓	✓			Chemical contamination does not present an unacceptable health risk.	No further action planned.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

AREE Number	AREE Description	Environmental Investigation Report Results/Findings						Final Determination
		OU/Site No.	PA	SI	RI	FS	Findings	
24	Maintenance Shops (located throughout facility)	Includes 17, 20, 21, 23	✓	✓			For Site 17 - Soil gas surveys at various areas have not yet indicated chemical contamination. PCE and CCl ₄ were detected in the 3/92 sample from the two site groundwater monitoring wells. For Site 20 - Soil gas samples from the areas of geophysical anomalies contained petroleum hydrocarbons and various organic compounds. PCE and high boiling point hydrocarbons have been detected in groundwater samples. For Site 21 - Total petroleum hydrocarbons (TPH) in soil detected at various areas. Concentration below TPH cleanup standard. Canal discharge area soil contained Pb, Sb, and Cr at concentration of concern. For Site 23 - Soil analyses indicated low levels of TPH and metals that do not present an unacceptable health risk. No organic contamination of groundwater, and inorganics present concentration < MCL.	For Site 17 - Continue soil and groundwater sampling. For Site 20 - Verify the validity of groundwater contamination. Determine extent of soil contamination. Since limited soil contamination was found, site was classified IA. For Site 21 - Further investigation of canal discharge area which depending on additional results can satisfy the IA criteria. For Site 23 - TPH in soils not a problem since migration to groundwater not expected. Categorized as an IA site.
25	USTs (located throughout facility)		✓	✓				Will be addressed under Fort Ord UST Program.
26	ASTs (located throughout facility)		✓					Will be addressed under Fort Ord AST compliance programs.
27	Battery Repair Shop (Building 2722)	12	✓	✓	✓		Undocumented for Site 19.	None for Site 19.
28	Photographic Laboratories (located throughout facility)	Includes 19, 28	✓	✓			Chemical contamination does not present an unacceptable health risk.	No further action planned.
29	Boiler Blowdown Areas (located throughout facility)		✓					
30	Wash Racks and Grease Racks (located throughout facility)	Includes 17, 18, 20, 23, 34	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.
31	Spray Painting Facilities		✓					
32	Small Arms Repair Shop (Building 4900)		✓					
33	Medical Facilities		✓				No chemical contamination known.	No further action planned.
34	Laboratory Operations (Buildings 3723, 4420, and 2076)		✓					

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

AREE Number	AREE Description	Environmental Investigation Report Results/Findings						Final Determination
		OU/Site No.	PA	SI	RI	FS	Findings	
35	Firing Ranges	*	✓	✓			Site Nos. 3, 5, 7, and 9 are remedial investigation (RI) sites. Site No. 5 soil contained low concentration of explosive compounds and various metals. Site No. 7 does not appear to have been impacted by site activities. Site No. 9 soil contained unknown hydrocarbons. Site No. 6 soil analyses identified antimony as diesel, and unknown hydrocarbons. Concentrations do not present an unacceptable health risk (< PRGs). Contamination is confined. Site No. 8 soil sampling identified UXO activity.	For Site Nos. 3, 5, 7, and 9 additional investigations will be conducted as part of Site No. 39 (IA). Site No. 39 Draft RI/FS Work Plan describes the work to be conducted. Site Nos. 6 and 8 are IA sites.
36	Other Training Sites		✓					
37	Other Hazardous Material Storage and Handling Areas (located throughout facility)		✓	✓				
38	Radioactive Waste Storage		✓					
39	Sanitary Wastewater Treatment (Ord Village STP)	1	✓	✓			Chemical contamination does not present an unacceptable health risk.	No further action planned.
40	Former Landfill at East Garrison	31	✓	✓			Soil gas surveys and soil boring test results have indicated metals contamination in the western slope of the site.	Remedial investigation (RI) site. Further investigations are underway to define the extent of contamination.
41	Impact Area	**	✓	✓			No previous investigations.	Site No. 39 Draft RI/FS Work Plan describes the investigative approach to be taken.
42	Transformers (located throughout facility)		✓	✓				Will be addressed under Fort Ord PCB management program.
43	Ammunition Storage		✓					
44	Other Hazardous Material Storage and Handling Area (Building 91)		✓					
45	Former Landfill Building 1474 Area	17	✓	✓			Soil samples from trenches excavated at the suspected landfill did not suggest past disposal practices.	Additional field work will be conducted in conjunction with the investigation of Pete's Pond (Site No. 16).
46	Former Hospital Area		✓					All medical waste incinerated in Building 1442; closed as hospital.
47	Septic Tanks and Tile Fields (location unknown)		✓					
48	Former DEH Yard	24	✓	✓				
49	Spill Areas (located throughout facility)	Includes 17, 38	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.
	Former Incinerator at East Garrison		✓					

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

AREE Number	AREE Description	Environmental Investigation Report Results/Findings						Final Determination
		OU/Site No.	PA	SI	RI	FS	Findings	
51	Leaking UST		✓					Will be addressed under Fort Ord UST program.
52	Leaking AST		✓					Will be addressed under Fort Ord AST compliance programs.
53	Fueling Stations (located throughout facility)	Includes 17, 21	✓	✓			Soil gas survey results provided elevated levels of total recoverable petroleum hydrocarbons and volatile organic compounds.	Will be addressed under Fort Ord UST program.
54	Building 3625 Spill Area		✓					
55	Former Leaking UST Area (Building 511)		✓	✓				Will be addressed under Fort Ord UST program.
56	Water Treatment Plant (Building 4974)		✓					
57	Unauthorized Disposal Areas (located throughout facility)	Includes 16, 17	✓	✓			For Site 16 - Organic contamination of soil identified. Highest concentrations were diesel fuel components (levels below MCL). For Site 17 - Observations from exploratory trenching suggest the disposal of medical wastes.	For Site 16 - Additional soil samples to depths of 40 ft to identify extent of contamination. For Site 17 - Continue investigation for possible additional areas.
58	Former UST Areas (exact locations unknown)		✓	✓				Will be addressed under Fort Ord UST program.
59	Shoreline Erosion (located throughout shoreline)		✓					
60	Asbestos (located throughout facility)		✓	✓				Will be addressed under DOA policy guidance.
61	Pesticide Usage (located throughout facility)	Includes 15	✓	✓			Groundwater is typically greater than 60 ft bgs. Contaminated soil is of limited extent (<500 cubic yards). Contaminated soil to be excavated is less than 25 ft bgs. Chemicals in contaminated soil are typically petroleum hydrocarbons, solvents, oils, metals, and pesticides.	IA site. Soil is excavated and evaluated to determine its waste classification. Type and extent of treatment depends on the outcome of the soil characterization. RCRA-characterized soil will be sent off-site for disposal. Draft IA ROD dated 2/15/94 does not indicate the selected soil treatment technology.

Note: AREE can specify more than one site (designates specific location). There is not a corresponding relationship between AREEs and sites.

*AREE No. 35 corresponds to Site Nos. 3, 5, 6, 7, 8, 9, and outer portions of Site No. 39.

**AREE No. 41 corresponds to the central portion of Site No. 39.

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Study Area OU (Zone/Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment*	Regulatory Mechanism	NFA
OU 1	OU 1	FTO-041	NPL	Former Fire Drill Area	Fuels, waste oils, solvents, TCE, MEK	Unknown	RA	TBD	FFA	
OU 2	OU 2	FTO-053	NPL	Fort Ord Landfills	TCE	1950s-1987	RI/FS	TBD	FFA	
Site 1	Site 1	FTO-001	NPL	Ord Village Sewage Treatment Plant	Waste oils, solvents, fuels, heavy metals	1950s-1964	NFA	TBD	FFA	✓
Site 2	Site 2	FTO-002	NPL	Main Garrison Sewage Treatment Plant	PCE, TCE, DCE, HBPCH, heavy metals, pesticides	1930s-1990	Phase 1 RI complete	TBD	FFA	
Site 3	Site 3	FTO-003	NPL	Beach Firing Ranges	Heavy metals		RI	TBD	FFA	
Site 4	Site 4	FTO-004	NPL	Beach Stormwater Outfalls	Waste oils, solvents	Present	NFA	TBD	FFA	✓
Site 5	Site 5	FTO-005	NPL	Range 36A (Explosive Ordnance Demo)	Explosive residue, RDX, HMX	As early as 1917-1985	RI	TBD	FFA	
Site 6	Site 6	FTO-006	NPL	Range 39 (Abandoned Car Dump)	Gasoline, oils	As early as 1917-1970s	IA	TBD	FFA	
Site 7	Site 7	FTO-007	NPL	Range 40 and 41 (Fire Demo Area)	Gasoline	As early as 1917-1970s	RI	TBD	FFA	
Site 8	Site 8	FTO-008	NPL	Range 49 (Molotov Cocktail Range)	Gasoline, oils	As early as 1917-1988	IA	TBD	FFA	
Site 9	Site 9	FTO-009	NPL	Range 39 (Fire Frenzy Exhibition)	Gasoline	As early as 1917-present	RI	TBD	FFA	
Site 10	Site 10	FTO-010	NPL	Fire Drill Burn Pit	Fuels, waste oils, heavy metals, solvents	Unknown	IA	TBD	FFA	
Site 11	Site 11	FTO-011	NPL	AAFES Fueling Station	Fuels, oils, heavy metals	1962-present	NFA	TBD	FFA	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment*	Regulatory Mechanism	NFA
Site 12	Site 12	FTO-012	NPL	Directorate of Logistics Automotive Yard, Cannibalization Yard, Lower Meadow Area	Solvents, fuels, oils, battery acid	Approximately 1960	RI (Phase 2)	TBD	FFA	
Site 13	Site 13	FTO-013	NPL	Railroad Right of Way	Unknown	Present	NFA	TBD	FFA	✓
Site 14	Site 14	FTO-014	NPL	707th Maintenance Facility	Fuels, oils, solvents, grease	1950-present	IA	TBD	FFA	
Site 15	Site 15	FTO-015	NPL	Directorate of Engineering and Housing Yard	Pesticides, PCBs	1967-present	IA	TBD	FFA	
Site 16	Site 16	FTO-016	NPL	Directorate of Logistics Maintenance Yard, Pete's Pond Area	Fuels, oils, solvents, UXO	1950s-present	RI	TBD	FFA	
Site 17	Site 17	FTO-017	NPL	1400 Block Motorpool	Fuels, oils, solvents	1977-present	RI	TBD	FFA	
Site 18	Site 18	FTO-018	NPL	1600 Block Motorpool	Fuels, oils, solvents	1940s-present	NFA	TBD	FFA	✓
Site 19	Site 19	FTO-019	NPL	2200 Block Facility	Fuels, oils, solvents	Present	NFA	TBD	FFA	✓
Site 20	Site 20	FTO-020	NPL	South Parade Ground, 3800 Block Motorpool, 519th Motorpool	Fuels, oils, solvents, landfill	1950s-present	IA	TBD	FFA	
Site 21	Site 21	FTO-021	NPL	4400/4500 Blocks Motorpool (East)	Fuels, oils, solvents	Present	IA	TBD	FFA	
Site 22	Site 22	FTO-022	NPL	4400/4500 Blocks Motorpool (West)	Fuels, oils, solvents	1977-present	IA	TBD	FFA	
Site 23	Site 23	FTO-023	NPL	3700 Block Motorpool	Fuels, oils, solvents	1940s-present	IA	TBD	FFA	
Site 24	Site 24	FTO-024	NPL	Old Directorate of Engineering and Housing Yard	Pesticides, fuels	1942-1980	SC	TBD	FFA	

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment*	Regulatory Mechanism	NFA
Site 25	Site 25	FTO-025	NPL	Former Defense Reutilization and Marketing Office Site	PCBs, pesticides	Unknown	NFA	TBD	FFA	✓
Site 26	Site 26	FTO-026	NPL	Sewage Pump Stations - Buildings 5871/6143	None	Present	NFA	TBD	FFA	✓
Site 27	Site 27	FTO-027	NPL	Army Reserve Motorpool	Fuels, oils	Unknown	NFA	TBD	FFA	✓
Site 28	Site 28	FTO-028	NPL	Barracks and Main Garrison Area	PCE	Present	NFA	TBD	FFA	✓
Site 29	Site 29	FTO-029	NPL	Defense Reutilization and Marketing Office	PCBs	Present	NFA	TBD	FFA	✓
Site 30	Site 30	FTO-030	NPL	Driver Training Area	Fuels, oils, solvents	Unknown	IA	TBD	FFA	
Site 31	Site 31	FTO-031	NPL	Former Dump Site	Unknown	1930s-1950s	RI	TBD	FFA	
Site 32	Site 32	FTO-032	NPL	East Garrison Sewage Treatment Plant	Fecal coliform	Present	NFA	TBD	FFA	✓
Site 33	Site 33	FTO-033	NPL	Golf Course	Pesticides, fungicides	1950s-present	SC	TBD	FFA	
Site 34	Site 34	FTO-034	NPL	FAAF Fueling Facility	Aircraft fuels, solvents	Present	IA	TBD	FFA	
Site 35	Site 35	FTO-035	NPL	Aircraft Cannibalization Yard	Aircraft fuels, solvents	Unknown	NFA	TBD	FFA	✓
Site 36	Site 36	FTO-036	NPL	FAAF Sewage Treatment Plant	Solvents, heavy metals, fuels	1950s-present	NFA	TBD	FFA	✓
Site 37	Site 37	FTO-037	NPL	Trailer Park Maintenance Shop	Grease, fuels, oils	1959-present	NFA	TBD	FFA	✓
Site 38	Site 38	FTO-038	NPL	AAFES Dry Cleaners	Solvents	Present	NFA	TBD	FFA	✓

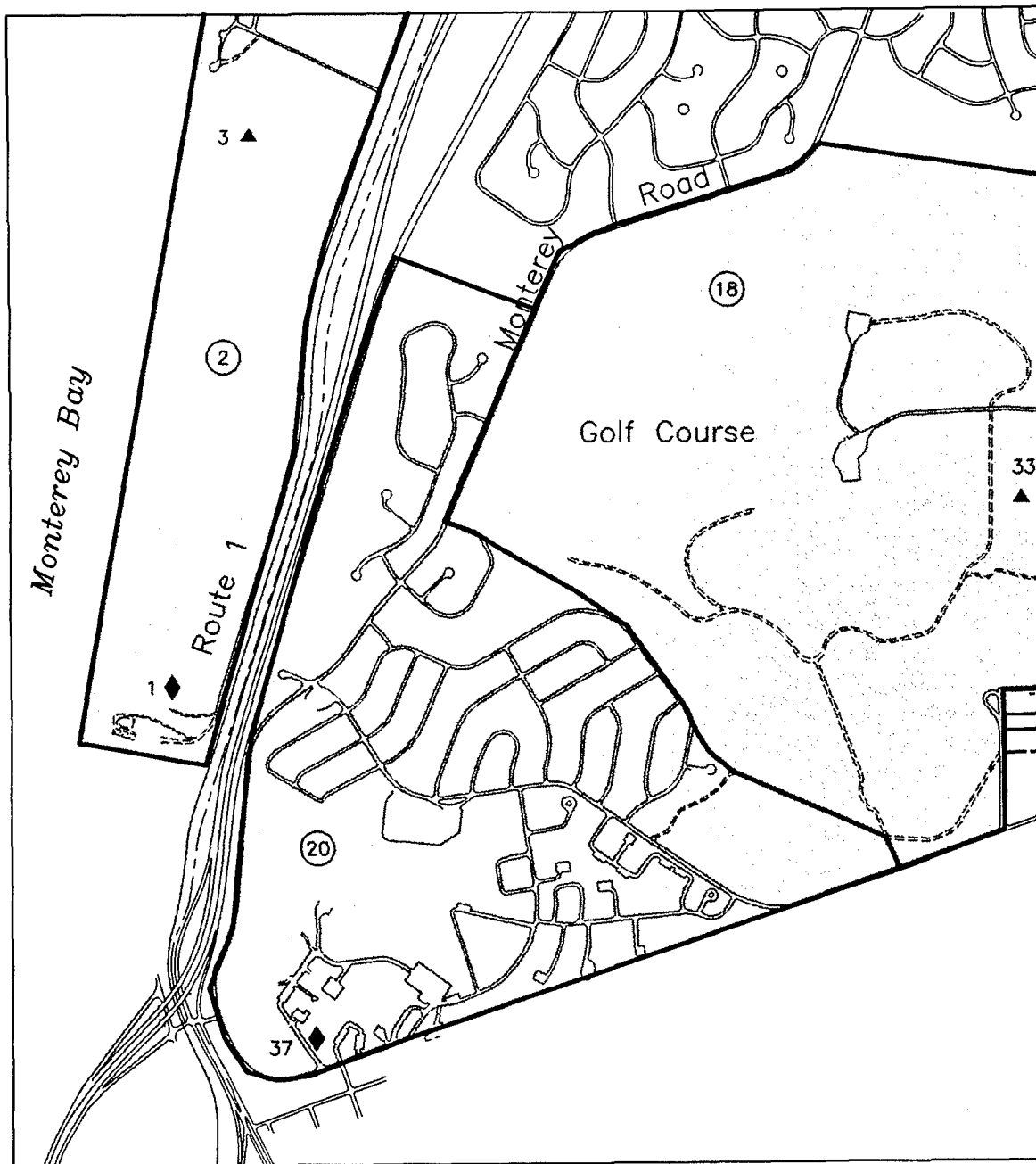
TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment*	Regulatory Mechanism	NFA
Site 39	Site 39	FTO-039	NPL	Inland Ranges/Impact Area	UXO, explosive residue	1917-present	RI	TBD	FFA	
Site 40	Site 40	FTO-040	NPL	FAAF Defueling Areas	Aircraft fuels	Unknown	SC	TBD	FFA	
Site 41	Site 41	--	NPL	Crescent Bluffs Training Area	Hydrocarbons	Unknown	SC	TBD	FFA	

Key:

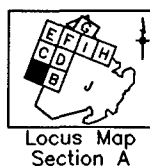
NPL	=	National Priority List	TBD	=	To Be Determined
SC	=	Site Characterization	RA	=	Remedial Action
NFA	=	No Further Action	RI/FS	=	Remedial Investigation/Feasibility Study
OU	=	Operable Unit	AAFES	=	Army and Air Force Exchange Services
TCE	=	Trichloroethylene	MEK	=	Methyl Ethyl Ketone
PCE	=	Tetrachloroethylene	DCE	=	Dichloroethylene
HBPHC	=	High Boiling Petroleum Hydrocarbons	RDX	=	Research and Development Explosive (cyclonite)
HMX	=	High Melt Explosive	PCB	=	Polychlorinated Biphenyl
UXO	=	Unexploded Ordnance	FFA	=	Federal Facility Agreement
IA	=	Interim Action			



EXPLANATION

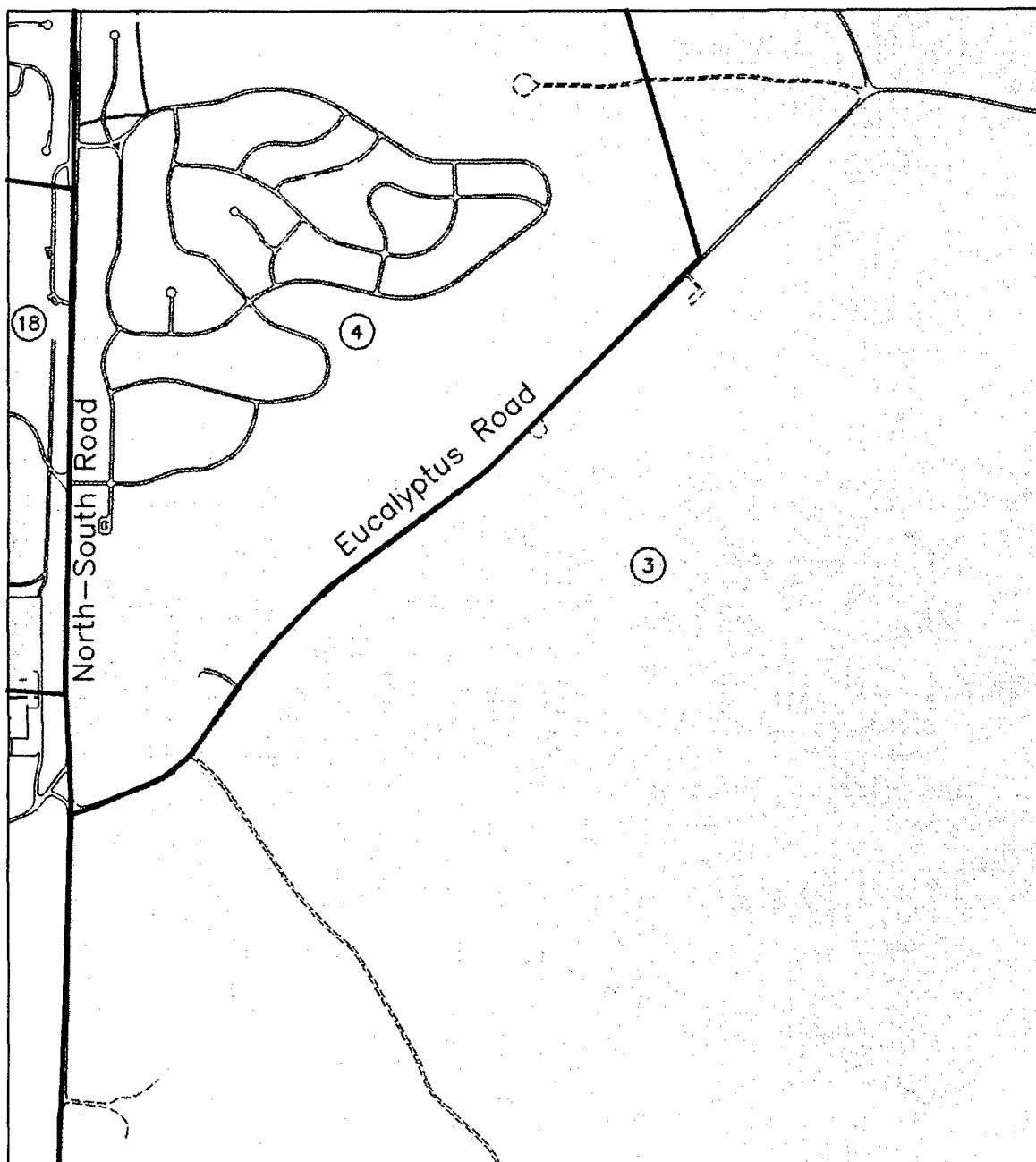
- 11 Zone
- ◆ Site Under Investigation
- ▲ No Action Site
- OUs
- Installation Boundary

Sites, Zones,
and OUs
Currently Under
Investigation



0 650 1300
FEET

Figure 3-1A



EXPLANATION

- 11 Zone
- Site Under Investigation
- No Action Site
- OUs
- Installation Boundary

Sites, Zones,
and OUs
Currently Under
Investigation

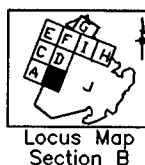
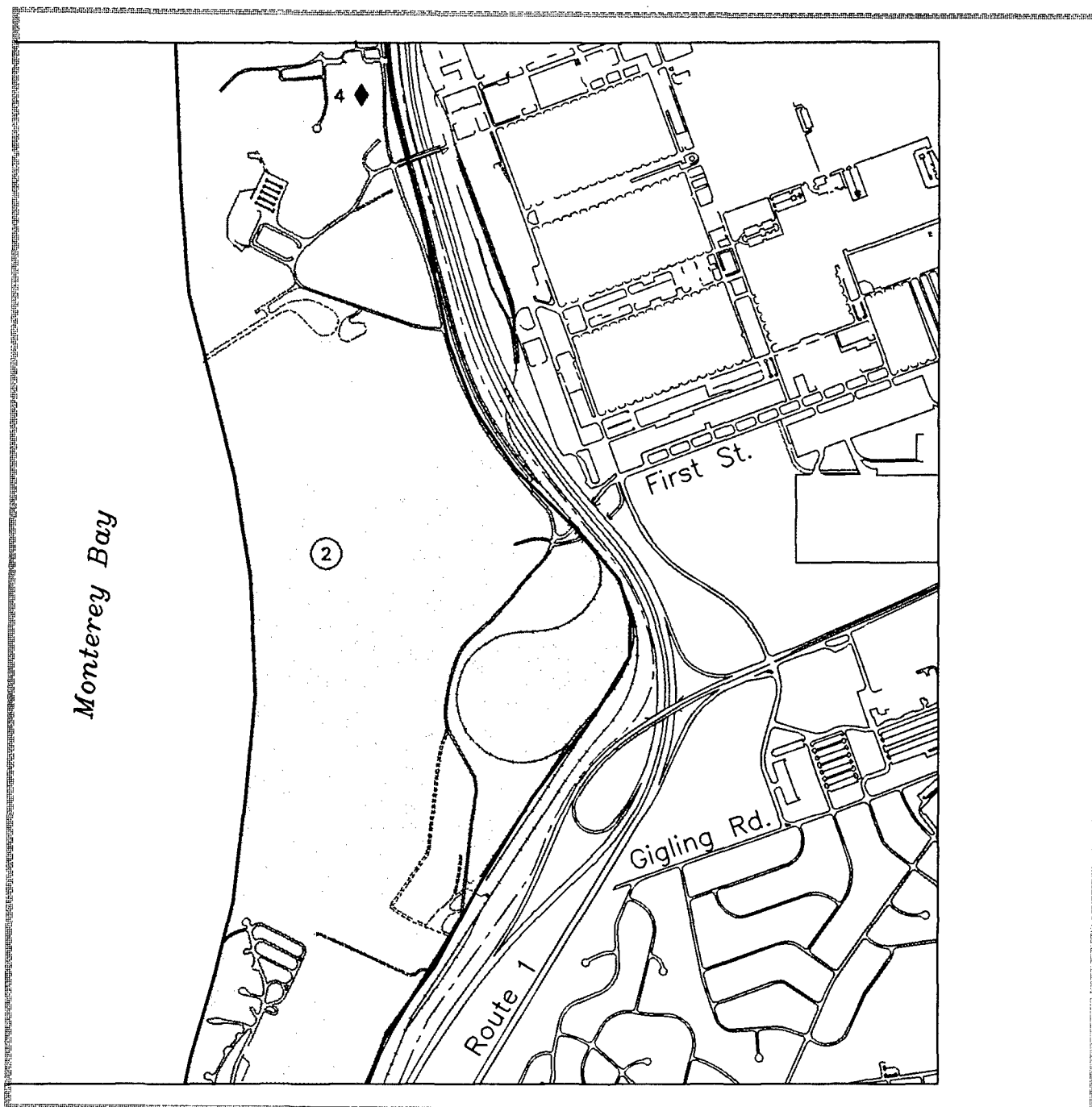


Figure 3-1B



EXPLANATION



Zone



Site Under Investigation

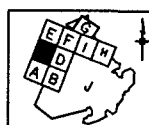


No Action Site

OU

Installation Boundary

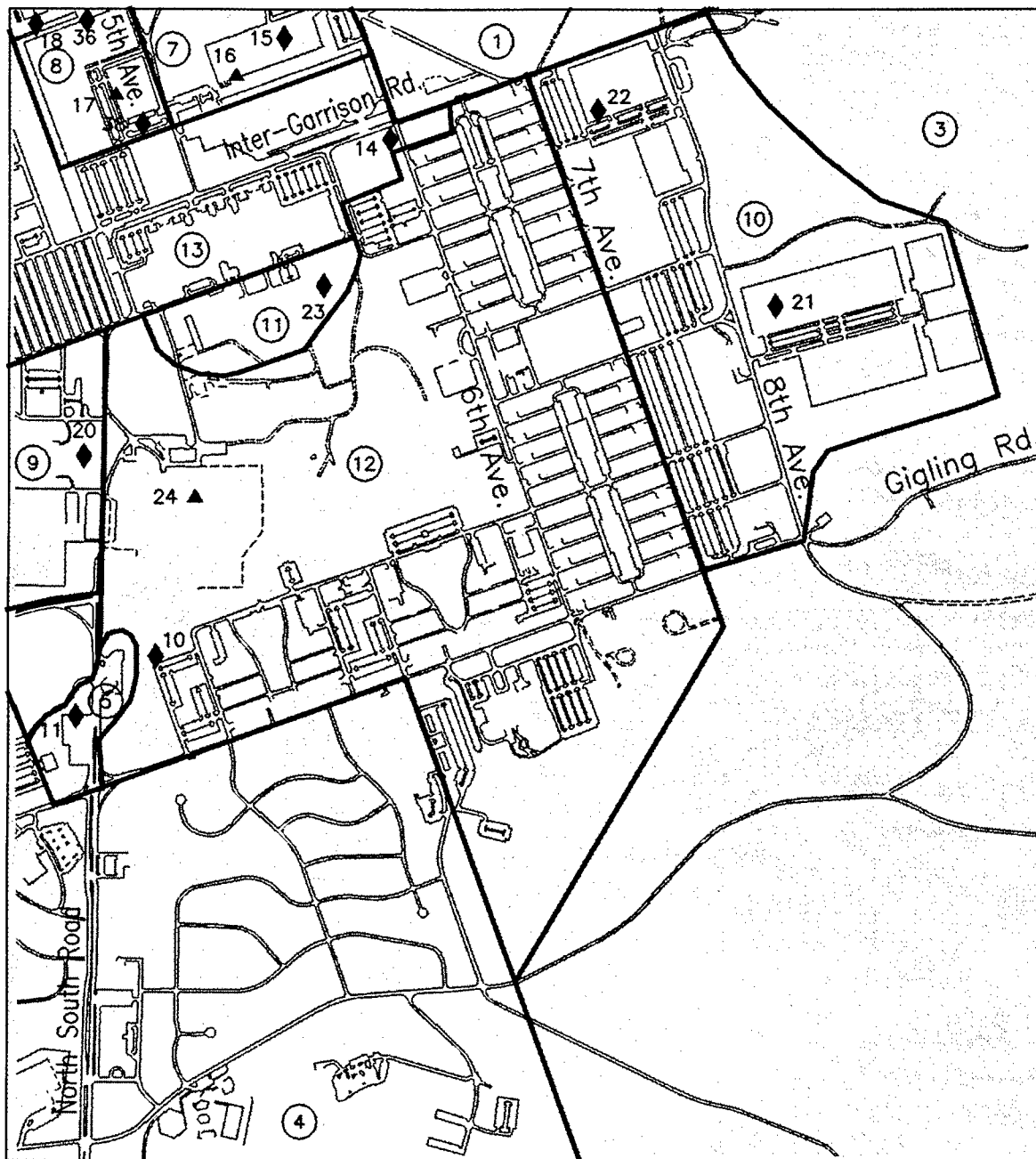
Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section C

0 650 1300
FEET

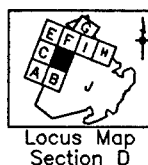
Figure 3-1C



EXPLANATION

- (11) Zone
- ◆ Site Under Investigation
- ▲ No Action Site
- OUs
- Installation Boundary

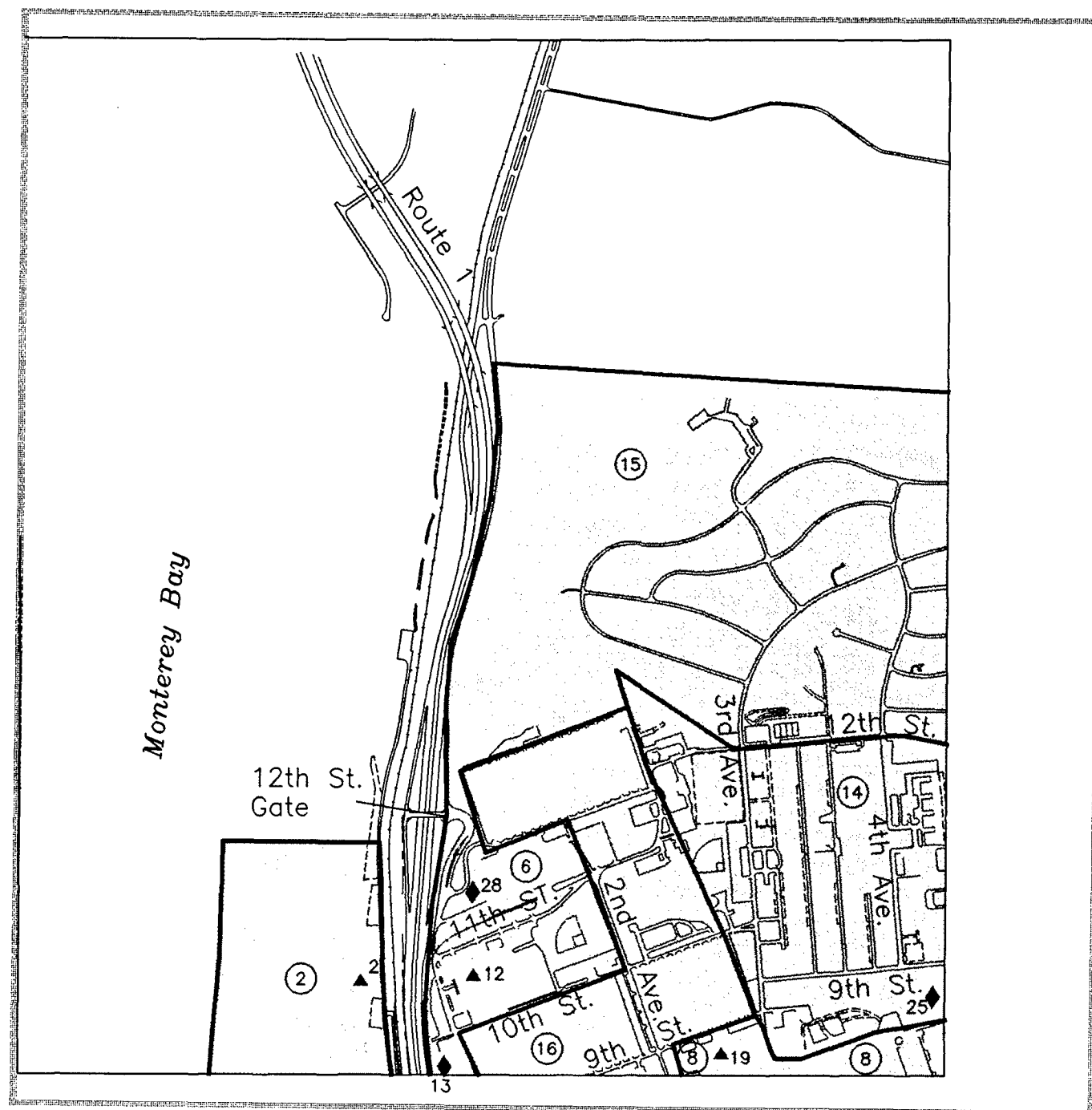
Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section D

0 650 1300
FEET

Figure 3-1D



EXPLANATION



Zone



Site Under Investigation

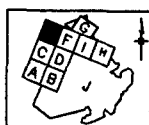


No Action Site

OU

Installation Boundary

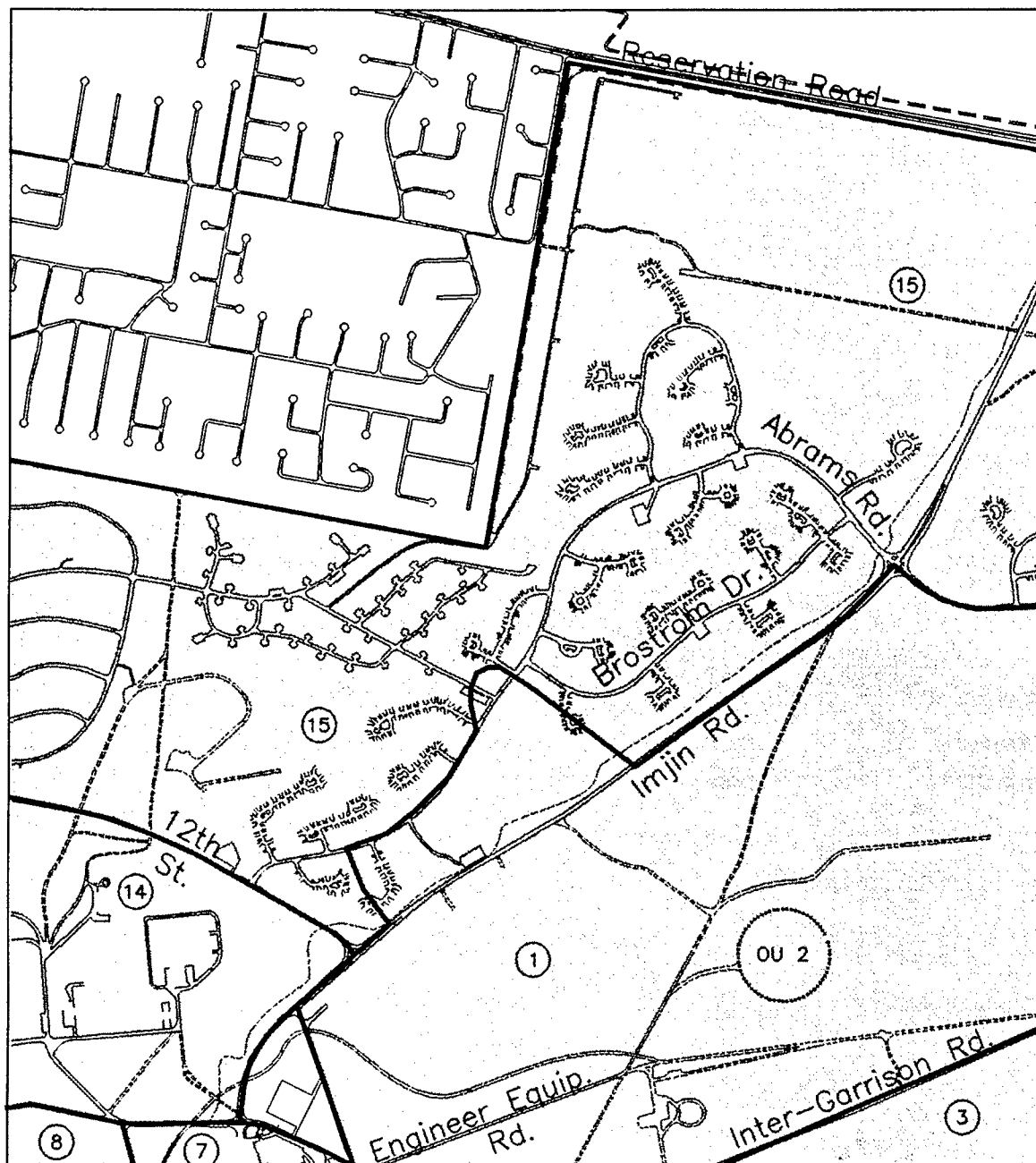
Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section E

0 650 1300
FEET

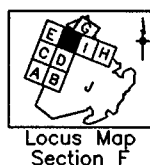
Figure 3-1E



EXPLANATION

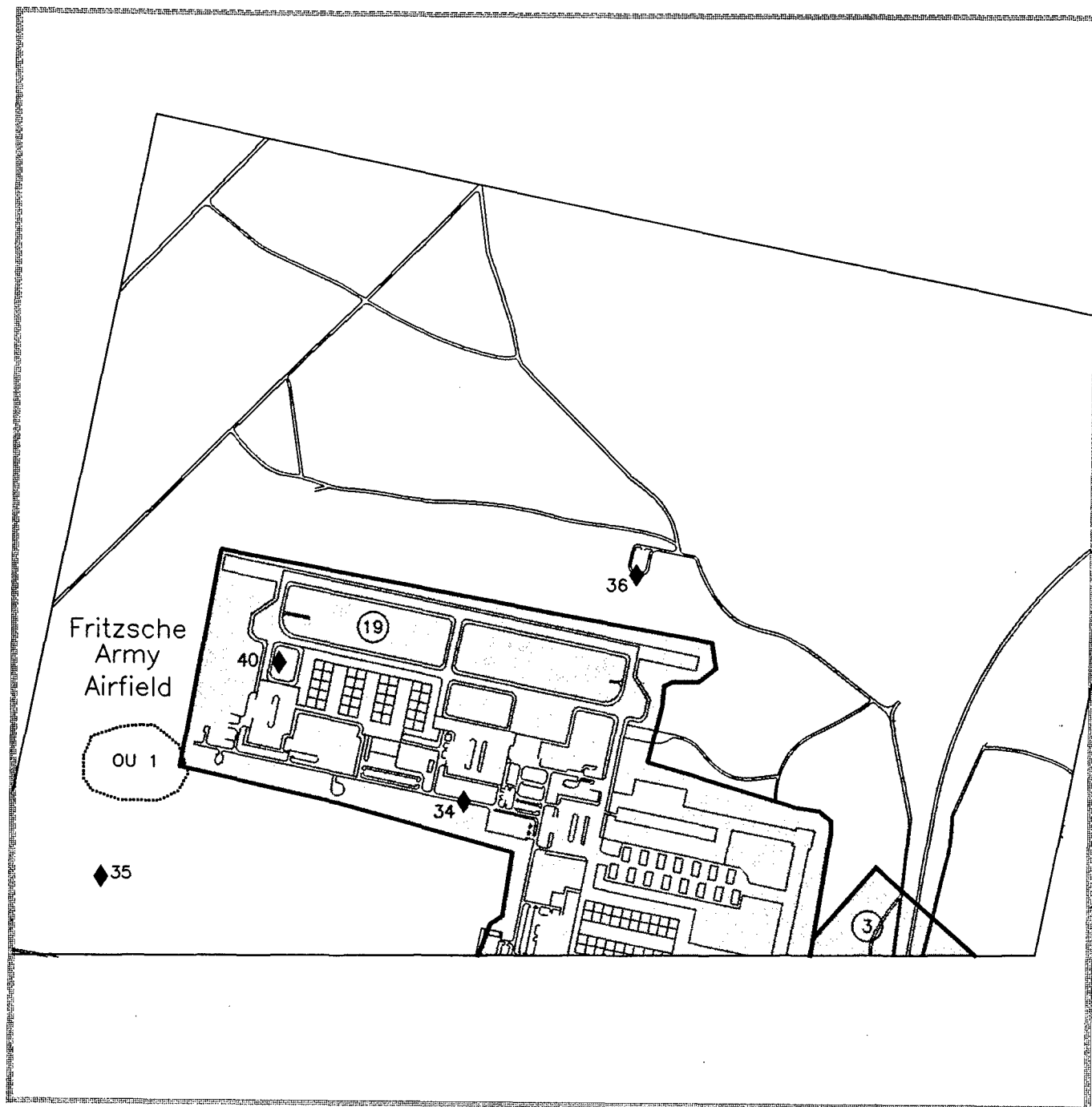
- (11) Zone
- ◆ Site Under Investigation
- ▲ No Action Site
- OUs
- Installation Boundary

Sites, Zones,
and OUs
Currently Under
Investigation



0 650 1300
FEET

Figure 3-1F



EXPLANATION



Zone



Site Under Investigation

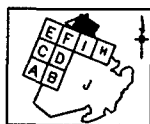


No Action Site

--- OUs

--- Installation Boundary

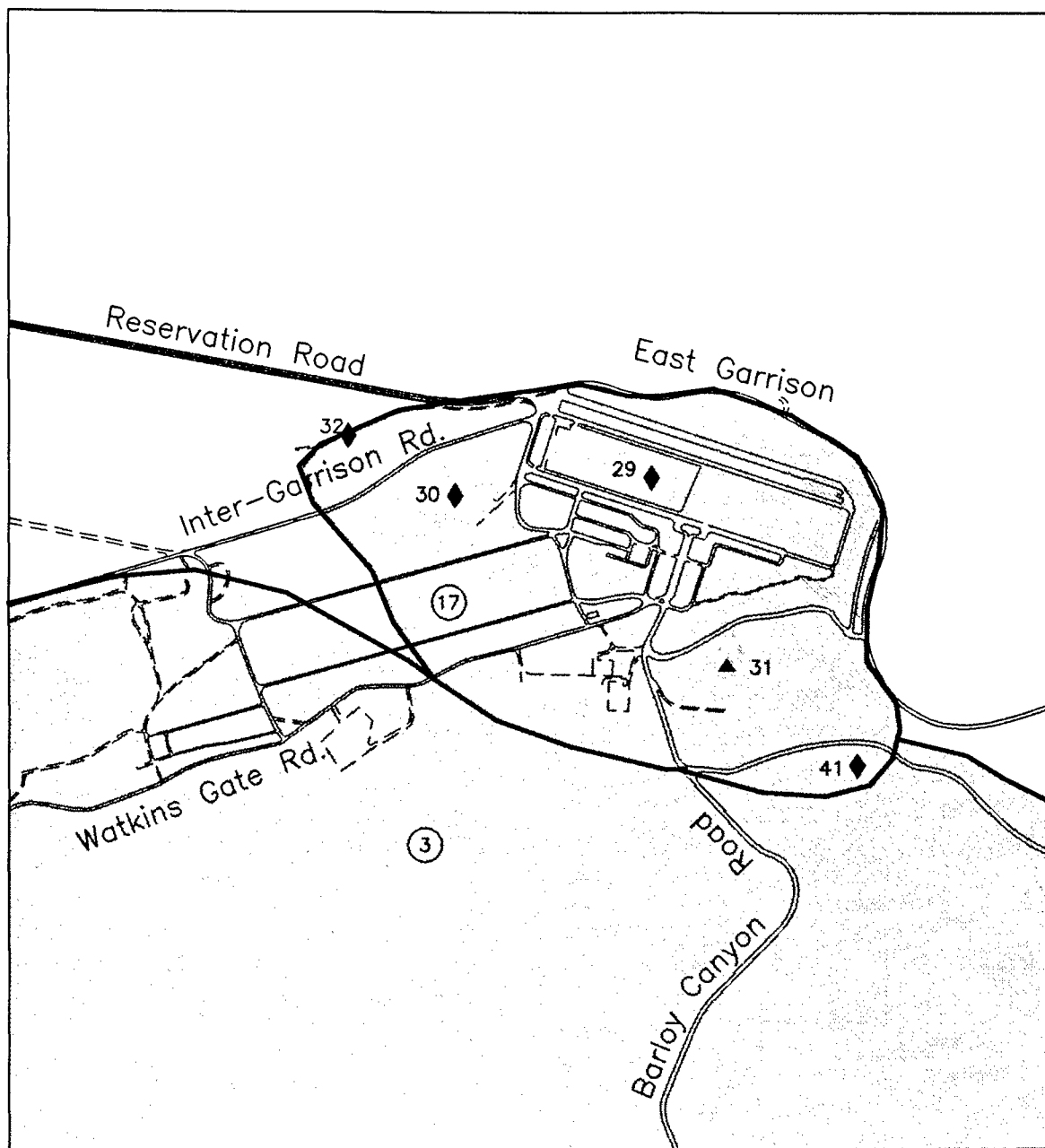
Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section G

0 650 1300
FEET

Figure 3-1G



EXPLANATION



Zone



Site Under Investigation

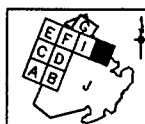


No Action Site

..... OUs

— Installation Boundary

Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section H

0 650 1300
FEET

Figure 3-1H



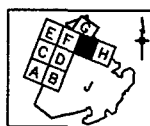
EXPLANATION

- 11 Zone
- ◆ Site
- ▲ No Action Site

----- OUs

----- Installation Boundary

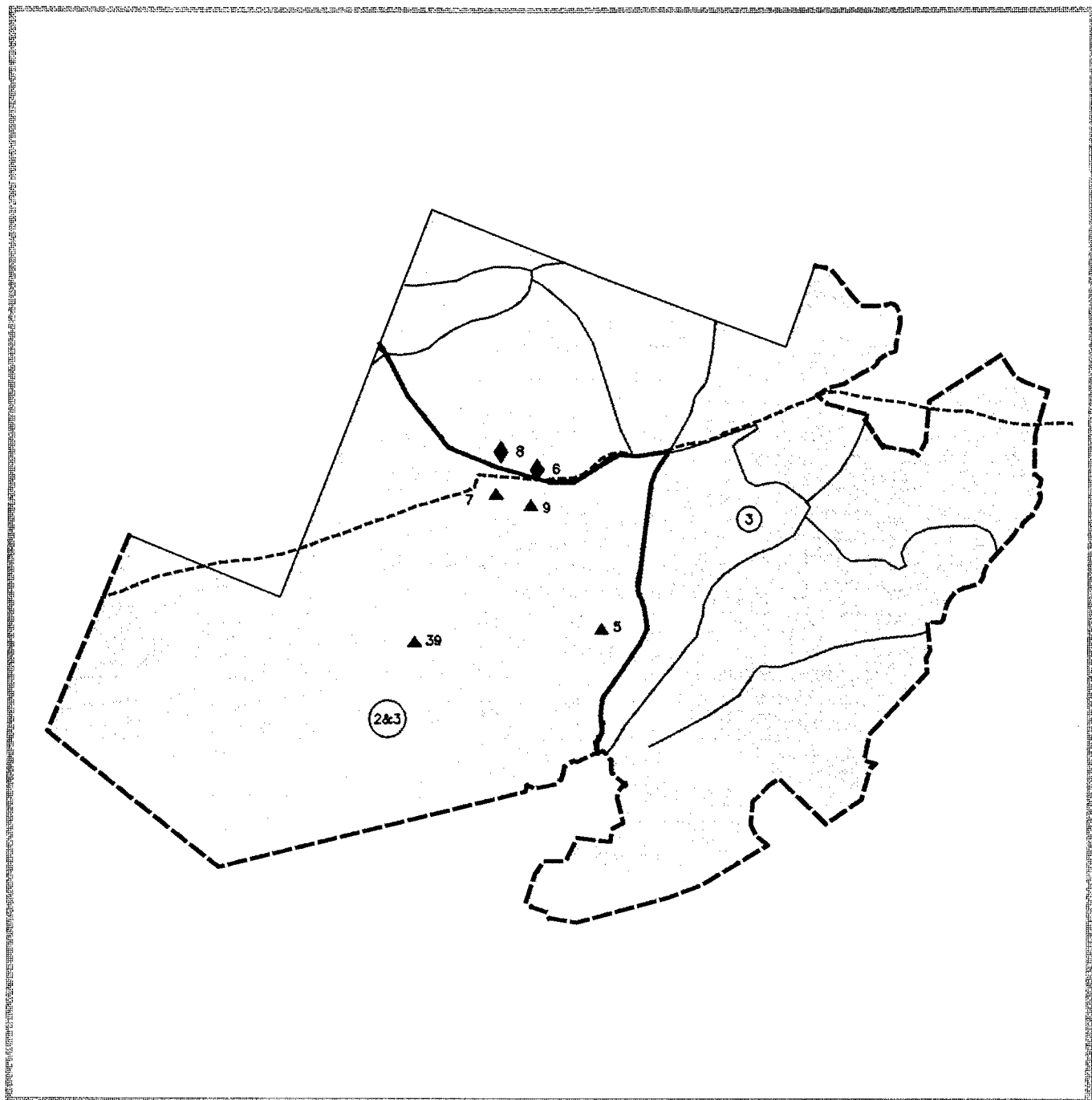
Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section A

0 650 1300
FEET

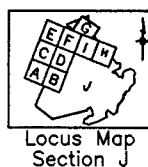
Figure 3-11



EXPLANATION

- ⑪ Zone
- ◆ Site Under Investigation
- ▲ No Action Site
- OUs
- Installation Boundary

Sites, Zones,
and OUs
Currently Under
Investigation



Locus Map
Section J

0 3250 6500
FEET

Note: Zone 2 is within Zone 3.

Figure 3-1J

Site characterizations have been completed for the 41 sites at Fort Ord. The site results will be used to determine whether a RI/FS, interim action, or NFAA plan will be instituted. Limited environmental contamination for source sites may warrant soil removal only (interim action). Site-by-site remediation activities will accelerate the transfer of portions of property for reuse. Fort Ord has an accelerated environmental restoration program which involves the execution of early actions for mitigating the effects of contaminant releases. These early actions are summarized in Table 3-3. Ongoing restoration activities include soil excavation and groundwater pumping, treatment, and recharge.

TABLE 3-3. ENVIRONMENTAL RESTORATION EARLY ACTION STATUS*

OU/Site No.	Action	Purpose	Status
OU 2	Interim groundwater pump and treat	Contaminant containment	Draft ROD completed
Site 6	Interim action	Contaminated soil removal	Final ROD in preparation
Site 8	Interim action	Contaminated soil removal	Final ROD in preparation
Site 10	Interim action	Contaminated soil removal	Final ROD in preparation
Site 14	Interim action	Contaminated soil removal	Final ROD in preparation
Site 15	Interim action	Contaminated soil removal	Final ROD in preparation
Site 20	Interim action	Contaminated soil removal	Final ROD in preparation
Site 21	Interim action	Contaminated soil removal	Final ROD in preparation
Site 22	Interim action	Contaminated soil removal	Final ROD in preparation
Site 23	Interim action	Contaminated soil removal	Final ROD in preparation
Site 30	Interim action	Contaminated soil removal	Final ROD in preparation
Site 34	Interim action	Contaminated soil removal	Final ROD in preparation

*Early actions have not yet been implemented at Fort Ord. However, early action programs exist.

3.1.2 Installation-Wide Source Discovery and Assessment Status

An ENPA was prepared in 1990; 61 AREEs were identified. An installation-wide RI/FS was initiated in 1991; 41 sites were investigated as part of this effort.

During July and August 1993, a CERFA investigation was conducted. The CERFA process identifies clean portions of Fort Ord. The draft report was delivered on 6 December 1993. In addition to the 61 AREEs previously identified, the CERFA report identified four new areas that may require additional evaluation as described below.

- ▶ A metal box containing unidentified, potentially hazardous materials.

- ▶ A cleared area with debris
- ▶ Several partially exposed, buried drums with unknown contents
- ▶ An abandoned pipeline for transporting crude oil

3.2 Compliance Program Status

Compliance actions at Fort Ord can be divided into two separate categories, current mission- and operational-related compliance projects and closure-related compliance projects. Mission- and operational-related projects are those which have been or would be conducted for the normal operation of the installation and are unrelated to activities necessitated by installation closure under BRAC. Conversely, closure-related compliance projects are those conducted specifically as a result of environmental compliance and restoration activities related to BRAC closure and property disposal.

Compliance activities at Fort Ord are being conducted in coordination with environmental restoration activities under the IRP. General compliance activities address the management of USTs, hazardous materials, asbestos, radon, PCBs, and water discharges. Compliance-related RAs at Fort Ord include removal of USTs, removal of PCB transformers, asbestos survey, radon testing, solid waste management, and lead-based paint, UXO, and radiological decommissioning surveys. The various environmental compliance projects at Fort Ord are identified by closure-related category in Table 3-5. No mission/ operational-related compliance projects are planned at Fort Ord because the post no longer has an active mission. Table 3-4 is provided in the event that any such compliance projects are planned.

TABLE 3-4. MISSION/OPERATIONAL-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
	Because Fort Ord no longer has an active mission, this table does not apply. Future changes will be reflected here if circumstances change.	

TABLE 3-5. CLOSURE-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
NPL Program	2 OUs identified; 41 characterization sites investigated; 16 NFA: 11 interim action; 4 uncategorized; 10 RI/FS.	CERCLA
Storage Tanks	133 USTs removed; 119 USTs inplace; 77 identified for removal due to installation closure.	UST Management Program
PCB Storage/Removal	All transformers with PCB levels above 50 parts per million (ppm) have been removed.	PCB Management Program
Asbestos Testing/Removal	3039 nonhousing structures surveyed. Survey of housing scheduled for completion by June 1994.	Asbestos Management Program

TABLE 3-5. CLOSURE-RELATED COMPLIANCE PROJECTS**Continued**

Project	Status	Regulatory Program
Radon Testing	Approximately 2900 building tested. Retesting of buildings over 4 pCi/L began January 1994.	DOA
Solid Waste Management	58 Solid Waste Management Units (SWMUs) identified.	RCRA/CERCLA
National Pollutant Discharge Elimination System (NPDES)	Pollution Prevention Plan submitted.	USEPA/State of California
Medical Waste Management	Medical waste is handled and disposed of in accordance with applicable regulations.	USEPA/State of California
Lead-based Paint	Survey of pre-1979 housing and barracks is underway.	24 Code of Federal Regulation (CFR) Part 35
UXO	Archive Search completed. Survey underway.	Army Regulations
Radiological Decommissioning	Survey began 1/94, schedule completion April 1994.	Nuclear Regulatory Commission (NRC)

A number of compliance-related activities at Fort Ord have been completed as early actions. These actions which are related to UST management are identified in Table 3-6. A more detailed description of the various environmental compliance programs at Fort Ord is provided in the subsections below.

TABLE 3-6. COMPLIANCE EARLY ACTION STATUS

Site	Action	Purpose	Status
6	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
8	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
10	Remove contaminated soil	Source removal	Pending final approval
12	Remove underground muffler	Source removal	Completed
14	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
15	Remove pesticide contaminated soil	Source removal	Pending final approval
20	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
21	Remove metals contaminated soil	Source removal	Pending final approval
22	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
23	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
30	Remove hydrocarbon contaminated soil	Source removal	Pending final approval
34	Remove hydrocarbon contaminated soil	Source removal	Pending final approval

3.2.1 Storage Tanks

The USEPA has delegated the management of the UST program to the State of California. The State of California has delegated that authority to the local fire marshal's office. Table 3-7 provides an inventory of the USTs at Fort Ord.

This section summarizes the status of the UST program at Fort Ord, including a listing of the number of tanks removed recently or that are in place, a description of site characterization activities, and a listing of the number of tanks anticipated for future removal.

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 93	1	TBD	1941	4,600	Regular/Premium Gas	Removed 3/91		None
Bldg. 93	2	TBD	1941	5,500	Regular/Premium Gas	Removed 3/91		None
Bldg. 128	1	TBD	Unknown	500	Information Not Available	Removed 3/91		None
Bldg. 139	1	TBD	Unknown	Unknown	Regular Gas	Removed 1976		None
Bldg. 139	2	TBD	Unknown	Unknown	Regular Gas	Removed 1976		None
Bldg. 456	1	TBD	Unknown	1,000	Kerosene	Removed 3/91		None
Bldg. 456	2	TBD	Unknown	2,000	Diesel	Removed 3/91		None
Bldg. 501	1	TBD	1961	10,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 501	2	TBD	1961	10,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 501	3	TBD	1961	10,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 501	4	TBD	1961	10,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 503	1	TBD	1976	25,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 503	2	TBD	1976	25,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 503	3	TBD	1976	25,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 503	4	TBD	1976	25,000	JP-4 Jet Fuel	Active	Passed Test 92	
Bldg. 507	1	TBD	1976	8,000	Diesel	Removed 3/92		None
Bldg. 509	1	TBD	1976	1,000	Diesel	Inactive	Passed Test 91	
Bldg. 511	1	TBD	1989	5,000	Unleaded Gas	Removed 3/92		None
Bldg. 511	2	TBD	1976	10,000	Diesel	Removed 3/92		None
Bldg. 513	1	TBD	1976	500	Waste Oil	Active	Passed Test 92	
Bldg. 515	1	TBD	1962	300	Regular Gas	Removed 4/92		None
Bldg. 519	1	TBD	1961	275	Regular/Unleaded Gas	Standby	Passed Test 92	
Bldg. 521	1	TBD	1977	1,000	Diesel	Removed 3/92		None
Bldg. 521	2	TBD	1977	100	Waste Hydraulic Fluid	Active	Failed Test 92	
Bldg. 527	1	TBD	1977	5,000	Diesel	Active	Passed Test 92	
Bldg. 542	1	TBD	1989	400	Heating Oil	Standby		
Bldg. 550	1	TBD	1964	285	Regular/Unleaded	Standby	Passed Test 92	
Bldg. 550	A	TBD	1964	285	Regular Gas	Removed 4/92	Failed Test 91	None
Bldg. 550	B	TBD	1964	285	Regular Gas	Removed 4/92		None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 550	C	TBD	1964	560	Regular/Unleaded Gas	Standby	Failed Test 90	
Bldg. 552	1	TBD	1985	12,000	JP-4 Jet Fuel	Removed 10/92	Never Used	None
Bldg. 555	1	TBD	1984	1,000	Diesel	Inactive		
Bldg. 560	1	TBD	1984	1,000	Diesel	Inactive		
Bldg. 700	1	TBD	1981	1,500	Diesel	Removed 3/92		None
Bldg. 701	1	TBD	1981	550	Waste Oil	Active	For Oil/Water Separator	
Bldg. 812	1	TBD	1987	550	Diesel	Active	Failed Test 90	
Bldg. 1060	1	TBD	1941	10,000	Diesel	Active		
Bldg. 1060	2	TBD	1976	10,000	Unleaded Gas	Active		
Bldg. 1060	3	TBD	1941	10,000	Premium Gas	Active		
Bldg. 1426	1	TBD	Unknown	200	Diesel	Removed 2/91		None
Bldg. 1426	2	TBD	Unknown	200	Diesel	Removed 2/91		None
Bldg. 1426	3	TBD	Unknown	200	Diesel	Removed 2/91		None
Bldg. 1434	1	TBD	1951	9,000	Stoddard Soln.	Inactive		
Bldg. 1434	2	TBD	1951	3,000	Stoddard Soln.	Inactive	Failed Test 91	
Bldg. 1434	3	TBD	1951	3,000	Stoddard Soln.	Removed 3/92		None
Bldg. 1480	1	TBD	1976	550	Waste Oil	Removed 3/92		None
Bldg. 1482	1	TBD	1976	550	Waste Oil		Passed Test 92	
Bldg. 1483	1	TBD	1976	2,500	Diesel		Passed Test 92	
Bldg. 1483	2	TBD	1976	550	Waste Oil	Removed 9/92	Site Charac- terization Underway	None
Bldg. 1487	1	TBD	1976	550	Waste Oil	Removed 9/92		None
Bldg. 1489	1	TBD	1976	1,500	Diesel		Failed Test 90	
Bldg. 1489	2	TBD	1976	550	Waste Oil	Active		
Bldg. 1492	1	TBD	1976	550	Waste Oil	Active		
Bldg. 1494	1	TBD	1976	550	Waste Oil	Active		
Bldg. 1495	1	TBD	1976	2,000	Diesel	Active		
Bldg. 1495	2	TBD	1976	550	Waste Oil	Active		
Bldg. 1497	1	TBD	1976	12,000	Diesel	Active		
Bldg. 1497	2	TBD	1976	25,000	Diesel	Active		

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued								
Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 1497	3	TBD	1976	25,000	Diesel	Active		
Bldg. 1497	4	TBD	1976	25,000	Diesel	Active		
Bldg. 1497	5	TBD	1976	25,000	Diesel	Active		
Bldg. 1636	1	TBD	1985	1,000	Waste Oil	Removed 5/92		None
Bldg. 1638	1	TBD	1978	1,000	Diesel	Removed 3/92		None
Bldg. 1670	1	TBD	1941	12,000	Unleaded Gas	Active		
Bldg. 1670	2	TBD	1941	12,000	Unleaded Gas	Active		
Bldg. 1680	1	TBD	1983	1,000	Waste Oil	Active		
Bldg. 1685	1	TBD	Unknown	Unknown	Diesel	Removed 84		None
Bldg. 1685	2	TBD	Unknown	Unknown	Diesel	Removed 84		None
Bldg. 1685	3	TBD	Unknown	Unknown	Diesel	Removed 84		None
Bldg. 1688	1	TBD					Closure underway	
Bldg. 1689	1	TBD	1985	Unknown	Unknown	Removed 3/92		None
Bldg. 1697	1	TBD	1981	1,000	Diesel	Active		
Bldg. 1697	2	TBD	1981	550	Waste Oil	Removed 3/92	Site Char. underway	
Bldg. 1699	1	TBD	1981	550	Waste Oil	Removed 3/92		None
Bldg. 2037	1	TBD	1941	12,000	Diesel	Active		
Bldg. 2037	2	TBD	1941	12,000	Unleaded Gas	Active		
Bldg. 2038	1	TBD	1941	12,000	Diesel	Active		
Bldg. 2038	2	TBD	1941	12,000	Diesel	Inactive	Failed test 92	
Bldg. 2039	1	TBD	1941	12,000	Diesel	Active		
Bldg. 2039	2	TBD	1941	12,000	Unleaded Gas	Active		
Bldg. 2040	1	TBD	1941	12,000	Diesel	Active		
Bldg. 2040	2	TBD	1941	12,000	Diesel	Active		
Bldg. 2041	1	TBD	1941	12,000	Diesel	Active		
Bldg. 2041	2	TBD	1941	12,000	Unleaded Gas	Active		
Bldg. 2042	1	TBD	1941	12,000	Kerosene	Inactive		
Bldg. 2042	2	TBD	1941	12,000	Solvent	Inactive		
Bldg. 2070	1	TBD	Unknown	Unknown	Diesel	Removed 5/88		None
Bldg. 2076	1	TBD	Unknown	500	Diesel	Removed 3/92		None
Bldg. 2076	2	TBD	1983	2,000	Diesel	Removed 3/92		None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 2253	1	TBD	1942	12,000	Diesel	Removed 3/91	Site Char. underway	
Bldg. 2426	1	TBD	1942	550	Diesel	Removed 2/91		None
Bldg. 2426	2	TBD	1942	550	Solvent	Removed 2/91		None
Bldg. 2426	3	TBD	1942	550	Diesel	Removed 2/91		None
Bldg. 2430	1	TBD	Unknown	Unknown	Waste Oil	Removed 3/92		None
Bldg. 2433	1	TBD	1976	850	Diesel	Removed 9/92		None
Bldg. 2705	1	TBD	1941	12,000	Regular Gas	Removed 2/91		None
Bldg. 2705	2	TBD	1941	12,000	Regular Gas	Removed 2/91		None
Bldg. 2754	1	TBD	1942	1,000	Regular Gas	Removed 2/91		None
Bldg. 2799	1	TBD	1963	300	Unleaded Gas	Standby		
Bldg. 2999	1	TBD	1942	8,000	Diesel	Removed 3/91		None
Bldg. 3000	A1	TBD	1976	1,000	Diesel	Removed 3/92		None
Bldg. 3004	1	TBD	1976	2,000	Diesel	Active		
Bldg. 3007	A1	TBD	1976	3,000	Diesel	Removed 3/92		None
Bldg. 3010	1	TBD	1976	1,500	Fuel Oil	Active		
Bldg. 3012	A1	TBD	1976	3,000	Diesel	Removed 3/92		None
Bldg. 3016	A1	TBD	1976	3,000	Diesel	Removed 3/92		None
Bldg. 3025	1	TBD	1976	1,000	Diesel	Removed 5/92		None
Bldg. 3039	1	TBD	1976	1,000	Diesel	Removed 3/92		None
Bldg. 3040	A1	TBD					Closure underway	None
Bldg. 3046	A	TBD	1976	2,000	Diesel	Removed 3/92		None
Bldg. 3050	A1	TBD	1976	4,000	Diesel	Removed 3/92		None
Bldg. 3066	A	TBD	1976	2,000	Diesel	Removed 5/92		None
Bldg. 3107	A1	TBD	1976	4,000	Diesel	Removed 3/91		None
Bldg. 3111	A1	TBD	Unknown	Unknown	Regular Gas	Removed 9/76		None
Bldg. 3215	1	TBD	1941	50	Fuel Oil	Standby		
Bldg. 3576	1	TBD	1980	15,000	Diesel	Removed 3/92		None
Bldg. 3582	1	TBD	1982	15,000	Diesel	Removed 3/92		None
Bldg. 3585	1	TBD	1982	30,000	Diesel	Removed 3/92		None
Bldg. 3589	1	TBD	1982	15,000	Diesel	Removed 3/92		None
Bldg. 3595	1	TBD	1982	15,000	Diesel	Removed 3/92		None
Bldg. 3599	1	TBD	1979	1,000	Diesel	Removed 3/92		None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 3621	1	TBD	1977	8,000	Diesel	Active		
Bldg. 3621	2	TBD	1977	500	Waste Diesel	Active		
Bldg. 3636	1	TBD	1977	8,000	Diesel	Active		
Bldg. 3636	2	TBD	1977	500	Waste Diesel	Active		
Bldg. 3641	1	TBD	1977	10,000	Diesel	Active		
Bldg. 3641	2	TBD	1977	500	Waste Diesel	Active		
Bldg. 3702	1	TBD	1958	2,000	Diesel	Removed 3/92		None
Bldg. 3703	1	TBD	1962	3,000	Diesel	Removed 3/92		None
Bldg. 3723	1	TBD	1984	1,000	Diesel	Removed 5/92		None
Bldg. 3766	1	TBD	1941	5,000	Unleaded Gas	Removed 3/91		None
Bldg. 3766	2	TBD	1941	5,000	Waste Oil	Removed 3/91		None
Bldg. 3771	1	TBD	1941	5,000	Unleaded Gas	Removed 3/91		None
Bldg. 3771	2	TBD	1941	5,000	Diesel	Removed 3/91		None
Bldg. 3775	1	TBD	1941	5,000	Unleaded Gas	Removed 3/91		None
Bldg. 3775	2	TBD	1941	5,000	Diesel	Removed 3/91		None
Bldg. 3803	1	TBD	1942	1,500	Unknown	Removed 3/91		None
Bldg. 3803	2	TBD	1942	1,500	Unknown	Removed 3/91		None
Bldg. 3803	3	TBD	1942	5,000	Unknown	Removed 3/91		None
Bldg. 3866	1	TBD	1941	Unknown	Diesel	Removed 1/90		None
Bldg. 3859	1	TBD					Closure underway	
Bldg. 3871	1	TBD	1942	6,500	Unleaded Gas	Removed 2/91		None
Bldg. 3876	1	TBD	1942	6,500	Waste Oil	Removed 2/91		None
Bldg. 4107	1	TBD	Unknown	750	Unknown	Removed 3/92	Site Char. Underway	
Bldg. 4110	1	TBD	1962	500	Regular Gas	Removed 5/92		None
Bldg. 4220	1	TBD	1964	10,000	Unleaded Gas	Active	Replacement Planned	
Bldg. 4220	2	TBD	1964	10,000	Unleaded Gas	Active	Replacement Planned	
Bldg. 4220	3	TBD	1964	10,000	Unleaded Gas	Active	Replacement Planned	
Bldg. 4220	4	TBD	1964	10,000	Regular/Unleaded Gas	Active	Replacement Planned	

Continued

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 4220	5	TBD	1964	10,000	Premium Gas	Active	Replacement Planned	
Bldg. 4220	6	TBD	1964	10,000	Premium Gas	Active	Replacement Planned	
Bldg. 4220	7	TBD	1986	1,000	Waste Oil	Active	AST Planned	
Bldg. 4225	1	TBD	1976	1,000	Diesel	Standby		
Bldg. 4250	1	TBD	1951	1,200	Diesel	Removed 3/92	Failed test 90	None
Bldg. 4250	2	TBD	1951	1,000	Diesel	Standby		
Bldg. 4251	1	TBD	1975	850	Diesel	Removed 3/92		None
Bldg. 4260	1	TBD	1964	2,500	Diesel	Removed 3/92		None
Bldg. 4280	1	TBD	1957	1,500	Diesel	Removed 3/92		None
Bldg. 4362	1	TBD	1952	4,000	Diesel	Removed 8/90		None
Bldg. 4363	1	TBD	1956	3,000	Diesel	Removed 3/92		None
Bldg. 4372	1	TBD	1988	50	Unleaded Gas	Removed 3/91	Replaced with AST	None
Bldg. 4373	2	TBD	Unknown	50	Unleaded Gas	Removed 3/91		None
Bldg. 4385	1	TBD	1968	10,000	Diesel	Standby		
Bldg. 4385	2	TBD	1968	10,000	Diesel	Inactive	Failed Test 92	
Bldg. 4387	1	TBD	1974	3,000	Diesel	Removed 3/92		None
Bldg. 4399	1	TBD	1975	1,000	Diesel	Removed 3/92		None
Bldg. 4400	1	TBD	1986	1,000	Unleaded Gas	Inactive		
Bldg. 4400	2	TBD	1986	1,000	Diesel	Active		
Bldg. 4430	1	TBD	1954	3,000	Diesel	Removed 4/92		None
Bldg. 4440	1	TBD	1954	3,000	Diesel	Removed 4/92		None
Bldg. 4441	1	TBD	1974	500	Waste Diesel	Active		
Bldg. 4492	1	TBD	1986	4,000	Waste Oil	Active		
Bldg. 4492	2	TBD	1986	500	Waste Solvent	Active		
Bldg. 4493	1	TBD	1976	20,000	Diesel	Inactive	To be removed	
Bldg. 4493	2	TBD	1980	20,000	Diesel	Removed 9/92		None
Bldg. 4493	3	TBD	1976	20,000	Diesel	Inactive	To be removed	
Bldg. 4493	4	TBD	1980	12,000	Unleaded Gas	Removed 9/92		None
Bldg. 4493	5	TBD	1976	20,000	Unleaded Gas	Inactive	To be removed	
Bldg. 4493	6	TBD	1976	20,000	Unleaded Gas	Inactive	To be removed	
Bldg. 4495	1	TBD	1975	1,200	Diesel	Standby		

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 4495	2	TBD	1975	550	Waste Oil	Active	Oil/water separator	
Bldg. 4499	1	TBD	1975	550	Waste Oil	Active	Oil/water separator	
Bldg. 4499	2	TBD	1975	2,000	Fuel Oil	Standby		
Bldg. 4506	1	TBD	1975	550	Waste Oil	Active	Oil/water separator	
Bldg. 4506	2	TBD	1975	2,000	Fuel Oil	Active		
Bldg. 4512	1	TBD	1975	2,000	Diesel	Active		
Bldg. 4512	2	TBD	1975	550	Waste Oil	Active	Oil/water separator	
Bldg. 4518	1	TBD	1979	550	Waste Oil	Removed 9/92		None
Bldg. 4518	2	TBD	1979	550	Diesel	Inactive	UST puncture	
Bldg. 4519	1	TBD	1979	550	Waste Oil	Active		
Bldg. 4521	1	TBD	1979	550	Waste Oil	Removed 9/92		None
Bldg. 4522	1	TBD	1979	550	Diesel	Active		
Bldg. 4522	2	TBD	1979	550	Waste Oil	Active		
Bldg. 4526	1	TBD	1953	5,000	Diesel	Removed 3/91		None
Bldg. 4526	2	TBD	1953	5,000	Diesel	Removed 3/91		None
Bldg. 4526	3	TBD	1953	5,000	Diesel	Removed 3/91		None
Bldg. 4526	4	TBD	Unknown	Unknown	Unleaded Gas	Removed 3/91		None
Bldg. 4528	1	TBD	1980	550	Diesel	Standby		
Bldg. 4534	1	TBD	Unknown	550	Waste Oil	Removed 3/91		None
Bldg. 4538	1	TBD	1976	2,000	Diesel	Active		
Bldg. 4538	2	TBD	1976	550	Waste Oil	Active	Oil/water separator	
Bldg. 4540	1	TBD	1976	550	Waste Oil	Removed 9/92		None
Bldg. 4543	1	TBD	1976	550	Waste Oil	Active		
Bldg. 4544	1	TBD	1976	2,000	Diesel	Active		
Bldg. 4544	2	TBD	1976	550	Waste Oil	Active		
Bldg. 4545	1	TBD	1976	20,000	Diesel	Active		
Bldg. 4545	2	TBD	1976	20,000	Diesel	Active		
Bldg. 4545	3	TBD	1976	20,000	Diesel	Active		
Bldg. 4547	1	TBD	1976	550	Waste Oil	Active		

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 4548	1	TBD	1976	550	Waste Oil	Removed 9/92		None
Bldg. 4548	2	TBD	1976	2,000	Diesel	Standby		
Bldg. 4552	1	TBD	1954	3,500	Diesel	Removed 4/92		None
Bldg. 4562	1	TBD	1954	3,500	Diesel	Removed 3/92		None
Bldg. 4580	1	TBD	1954	3,500	Diesel	Removed 4/92		None
Bldg. 4582	1	TBD					Closure underway	
Bldg. 4590	1	TBD	1954	3,000	Diesel	Removed 4/92		None
Bldg. 4782	1	TBD	1954	3,500	Diesel	Removed 4/92		None
Bldg. 4792	1	TBD	1954	3,500	Diesel	Removed 3/92		None
Bldg. 4850	1	TBD	1952	5,000	Unleaded Gas	Removed 2/91		None
Bldg. 4850	2	TBD	1952	5,000	Unleaded Gas	Removed 2/91		None
Bldg. 4850	3	TBD	1952	5,000	Unleaded Gas	Removed 2/91		None
Bldg. 4852	1	TBD	1952	5,000	Unleaded Gas	Removed 2/91		None
Bldg. 4852	2	TBD	1952	5,000	Unleaded Gas	Removed 2/91		None
Bldg. 4852	3	TBD	1952	5,000	Unleaded Gas	Removed 2/91		None
Bldg. 4855	1	TBD	1965	550	Waste Oil	Undocumented		
Bldg. 4861	1	TBD	1952	5,000	Diesel	Removed 2/91		None
Bldg. 4861	2	TBD	1952	5,000	Diesel	Removed 2/91		None
Bldg. 4861	3	TBD	1952	5,000	Diesel	Removed 2/91		None
Bldg. 4885	1	TBD	1978	550	Diesel	Active		
Bldg. 4885	2	TBD	1978	550	Waste Oil	Active		
Bldg. 4900	1	TBD	1956	1,500	Diesel	Removed 3/92		None
Bldg. 4911	1	TBD	1967	3,500	Unleaded Gas	Removed 2/91		None
Bldg. 4911	2	TBD	1967	550	Diesel	Removed 2/91		None
Bldg. 4950	1	TBD	Unknown	1,000	Diesel	Removed 9/92		None
Bldg. 4953	1	TBD	Unknown	1,000	Diesel	Removed 3/92		None
Bldg. 4953	2	TBD	Unknown	5,000	Waste Oil	Removed 9/92		None
Bldg. 4953	3	TBD	Unknown	1,000	Diesel	Removed 9/92		None
Bldg. 4970	1	TBD	Unknown	Unknown	Diesel	Removed 1/89		None
Bldg. 4974	1	TBD	1954	500	Unleaded Gas	Inactive		
Bldg. 5871	1	TBD	1983	300	Diesel	Standby		
Bldg. 6005	1	TBD	1970	2,000	Diesel	Removed 3/92		None
Bldg. 6020	1	TBD	Unknown	Unknown	Unknown	Removed 1/89		None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Location	Tank No.	Site No./ Reuse Parcel	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions ¹
Bldg. 6054	1	TBD	Unknown	Unknown	Unleaded Gas	Removed 1/89		None
Bldg. 6120	1	TBD	Unknown	Unknown	Unleaded Gas	Removed 1/89		None
Bldg. 6130	1	TBD	1978	60	Diesel	Standby		
Bldg. 6143	1	TBD	1979	60	Diesel	Standby		
Bldg. 6160	1	TBD	1986	10,000	Regular/Unleaded Gas	Active		
Bldg. 6160	2	TBD	1986	10,000	Unleaded Gas	Active		
Bldg. 6160	3	TBD	1986	10,000	Premium Gas	Inactive		
Bldg. 6225	1	TBD	1981	300	Diesel	Standby		
Bldg. 8775	1	TBD	1963	200	Unleaded Gas	Standby		

Continued

Source: UST Inventory of Fort Ord, 18 February 1994.

¹Future actions can be found in Recommendations, Underground Storage Tank Management Program, Fort Ord, California, 30 October 1991.

- ▶ 133 USTs were removed from Fort Ord, primarily between 1991 to 1993
- ▶ Of the sites where those 133 USTs were removed, approximately 20 sites were found to be contaminated
- ▶ Site characterization studies are under way on 19 of the 20 contaminated sites to evaluate the vertical and horizontal extent of contamination. A site characterization will be required on the twentieth site
- ▶ Remediation at the 20 sites is anticipated to include excavation, removal, and treatment of contaminated soil
- ▶ Approximately 119 USTs remain in place for storage of heating fuel, vehicle and aircraft fuel, waste oil, or Stoddard solvent or as emergency storage reservoirs leak tested. Approximately 98% of these tanks have been tested annually between the years 1990-1992.
- ▶ Of the remaining USTs, approximately 77 have been identified recently for removal due to installation closure. USTs associated with operation of water wells, sewage lifts, or emergency facilities or that are in areas to be retained by the U.S. Army will be replaced with double-walled tanks or ASTs.

Aboveground storage tank (AST) compliance programs at Fort Ord are conducted under DOA Regulation (AR) 200-1 and the federal and state requirements including 40 CFR Parts 110, 112, and 116 and California oil pollution prevention regulations. There are 40 ASTs listed on the Fort Ord AST inventory as provided in Table 3-8.

A total of 40 ASTs are present within the installation. Thirty-three of these ASTs contain POL liquids, seven contain propane gas. Regulations require registration of tanks over 660 gallons containing liquid POL products. Only one AST (Building 4441, capacity 210,000 gallons) exceeds the liquid storage quantity threshold and therefore requires registration. A letter requesting registration was submitted to the RWQCB on August 24, 1993.

3.2.2 Hazardous Materials/Waste Management

Hazardous waste compliance programs at Fort Ord are conducted under DOA AR 200-1, and the federal requirements found in 40 CFR 260 through 269, 40 CFR 117, 49 CFR 171 et seq., Department of Transportation (DOT) regulations, and the California hazardous waste management regulations. Hazardous wastes currently generated on-site are managed in accordance with all applicable state and federal regulations.

3.2.3 Solid Waste Management

Solid waste management compliance programs at Fort Ord are conducted under AR 200-1 and 420-47, the federal requirements found in 40 CFR 240-246 and 40 CFR 257-258, DOT

TABLE 3-8. ABOVEGROUND STORAGE TANK INVENTORY

Location	Size/Contents	Status*
Building 4900	400 gallon/diesel	
Building 4900	400 gallon/waste oil	
Yard	500 gallon/diesel	
Building 4100	300 gallon/diesel	
Building 4100	450 gallon/diesel	
Building 4100	150 gallon/mogas	
Building 4441	210,000 gallon/diesel	
Building 3767	600 gallon/diesel	
Building 3877	600 gallon/mogas	
Building 3877	2-600 gallon/diesel	
Well 17	50 gallon/mogas	
Building 7698	50 gallon/diesel	
Building 5990	100 gallon/mogas	
Building 805	25 gallon/mogas	
Building 5492	25 gallon/mogas	
Building 5713	500 gallon/diesel	
Building 2725	400 gallon/diesel	
Building 4903	400 gallon/diesel	
Building 5398	90 gallon/diesel	
Building 5447	90 gallon/diesel	
Building 4110	500 gallon/mogas 500 gallon/diesel	
Building 530	90 gallon/diesel	
Building 4395	500 gallon/diesel	
Building 122	2-500 gallon/diesel	
Building 232	500 gallon/diesel	
Building 803	25 gallon/mogas	
Building 3108	25,000 gallon/propane	
Building 4460	25,000 gallon/propane	
Building 745	1,150 gallon/propane	
Building 4367	1,175 gallon/propane	
Building 4367	375 gallon/propane	
Building 2436	500 gallon/mogas	
Building 3700	250 gallon/diesel	
Building 1049	250 gallon/propane	
Building 4240	250 gallon/propane	
Building 4975	500 gallon/mogas	
Building T-64	50 gallon/mogas	

*AST status to be determined.

regulations, and the California solid waste management regulations. Solid wastes currently generated at Fort Ord are managed in accordance with all applicable state and federal regulations.

There are two landfills at Fort Ord. The landfills, also known as OU 2, are located north and south of Imjin Road in the north central portion of the installation. The north landfill covers approximately 30 acres, and residences are located nearby. A playing field and roads are located on the landfill. The landfill south of Imjin Road (the main landfill) encompasses approximately 120 acres that have not been developed. This area is covered by uneven sand dunes with grass, shrubs, and bushes.

The landfills were used for 30 to 35 years for residential and commercial waste disposal. The north landfill was used from 1956 to 1966 and was closed to waste disposal when the main landfill began operating. The main landfill was operated from 1960 until 1987 and may have received a small amount of chemical waste along with household and commercial refuse. The main landfill facility stopped accepting waste for disposal in May 1987 because of the initiation of interim closure of the facility.

Waste received at the main landfill facility was placed in trenches approximately 30 feet wide, 10 to 12 feet below ground surface, and 10 to 15 feet apart. Waste was normally placed in these trenches to a height of approximately 10 feet above the trench bottom and covered with about 2 feet of native dune sand deposits excavated during trenching operations; however, thicker refuse sections exist within the landfill. The disposal methods at the north landfill are unknown but are believed to be similar to practices used in the main landfill.

Detailed records on the amounts or types of waste disposed of at the landfills are not available; however, information collected during field activities and from other sources indicate that household and commercial refuse, dried sewage sludge, construction debris, and a small amount of chemical waste (such as paint oil, pesticides, electrical equipment, ink, and epoxy adhesive) were placed in the landfill.

Solid waste generated by Fort Ord is currently transported off-post for disposal at a local landfill in compliance with state and federal regulatory requirements. The two existing landfills at the installation are currently closed and are being addressed as part of the NPL Program.

3.2.4 Polychlorinated Biphenyls

PCB management compliance programs at Fort Ord are conducted under AR 200-1 and the federal requirements found in 40 CFR 761, and DOT regulations. The purpose of the PCB management program at Fort Ord is to identify transformers and other potential PCB-containing materials and evaluate their potential to contain PCBs. As part of this program, transformer storage locations and areas where transformers were reportedly buried were investigated.

Several sampling episodes for PCBs in transformer oils have been conducted at Fort Ord. According to the Fort Ord ENPA, all transformers at Fort Ord were tested for PCBs in 1987. Information from Fort Ord personnel indicates that additional sampling was conducted between 1985 and 1987. The sampling programs encompassed approximately 1,000 transformers

throughout Fort Ord, ranging in size from 1.5 KVA to 750 KVA. Most of the sampled transformers were pole-mounted, although pad- or ground-mounted transformers were also included in the sampling program. PCB test results indicated that dielectric fluids from three transformers located in Building 3702 had PCB concentrations ranging from 360,000 to 860,000 ppm. In addition, oil from a transformer located near Building 2066 (Main Garrison Sewage Treatment Plant) had a PCB concentration of 100 ppm. No other transformer oils showed PCB levels exceeding the Toxic Substance Control Act limit of 50 ppm. Approximately 168 transformers had PCB levels between 5 and 50 ppm and were considered PCB contaminated based on State of California guidelines. The remaining transformers at Fort Ord had PCB levels under 5 ppm.

According to records, the dielectric fluid from the three transformers at Building 3702 was removed and disposed, and the transformer oil was replaced with non-PCB-containing dielectric fluid. All transformers with PCB levels between 50 and 500 ppm were replaced by the end of 1992. There is no installation-wide program to replace transformers with PCB levels between 5 and 50 ppm; these are replaced with non-PCB transformers on an as-needed basis. Many transformers have been removed and disposed and dielectric fluid from the transformers has been tested for PCBs, changed out, and disposed as necessary.

The only documented release of transformer oil occurred in the late 1970s on Seventh Avenue. The contaminated soil was removed by roads and grounds personnel and taken off-post. No information was available as to the exact location of the release and whether any soil sampling was performed.

According to a DHS document dated January 14, 1983, 25 transformers containing dielectric fluid with less than 7 ppm PCBs were buried in the Fort Ord landfill adjacent to the CSU parcel. In the document, the DHS requested that the transformers be uncovered and the fluid pumped out and disposed.

According to U.S. Army documents and a U.S. Army Environmental Hygiene Agency (USAEHA) Interim Final Report (IFR), dielectric fluid removed from transformers at Fort Ord was stored temporarily in drums at the East Garrison Defense Reutilization and Marketing Office (DRMO) (Site 29, SWMU FTO-015). Reportedly, transformers were also stored at this location and leaked PCB-containing dielectric fluid to the soil. An investigation was completed at this location; however, no PCBs were found in soil and NFA was required.

3.2.5 Asbestos

Asbestos-containing material (ACM) is regulated by USEPA, the Occupational Safety and Health Administration (OSHA), and the State of California. Asbestos at Fort Ord is managed in compliance with the DOA guidance "Lead-Based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure."

In 1989 and 1990, an asbestos survey of approximately 350 nonhousing buildings (i.e., retail stores, office buildings, lavatories, dining halls, barracks, general purpose buildings, vehicle maintenance and storage, oil storage, bus/taxi stations, and ammunition bunkers) found the presence of both friable and nonfriable ACM such as tank and pipe insulation, HVAC vibration

joint cloths, exhaust flues, acoustic ceiling treatment, floor tile, linoleum and associated mastics, and debris in the buildings. From October 1991 to April 1993, a installation-wide asbestos survey of an additional 2,689 nonhousing and barracks structures was performed and found the presence of both friable and nonfriable ACM. The results are presented in the Executive Summary report. While the Executive Summary did not provide detailed data for all buildings, it did provide a list of all structures in which no asbestos was observed.

Surveys of housing units that are scheduled for disposal began in October 1993 and are expected to be completed by June 1994. A summary report for the housing surveys is expected to be issued by June 1994.

Draft U.S. Army policy guidance indicates that friable/damaged ACM will be removed from BRAC installations and the location of nonfriable ACM will be disclosed prior to property transfer. This draft policy has not been adopted or confirmed as of the date of this document. Fort Ord will continue to maintain and take necessary corrective actions based on U.S. Army regulations and requirements.

3.2.6 Radon

The radon reduction program at Fort Ord is conducted under AR 200-1, Chapter 11, U.S. Army Radon Reduction Program.

Radon testing using ASTM procedures was originally performed in the 1989-1990 fiscal year. Those surveys included approximately 2,900 housing and office buildings installation-wide. U.S. Army policy dictates that buildings with radon levels above 4 pCi/l be retested for 12 months. Those buildings with levels above 8 pCi/l must undergo complete remediation within 1 to 4 years.

3.2.7 RCRA Facilities (SWMUs)

In 1988, the USAEHA performed an assessment to identify, describe, and evaluate SWMUs at Fort Ord. The purpose of the USAEHA study was to assist Fort Ord in bringing the SWMUs into compliance with state and federal regulations and to identify SWMUs requiring environmental sampling and/or RA.

USAEHA issued an IFR entitled *Evaluation of Solid Waste Management Units, Fort Ord, California, September 18-22, 1988*, which identified 58 SWMUs at Fort Ord. A list of these SWMUs is provided in Appendix F. Recommendations to ensure environmental compliance at Fort Ord were presented in the IFR and included:

- ▶ Inclusion of the IFR with the Part B permit renewal application for review by state and USEPA Region IX regulatory authorities
- ▶ Coordination with the state and USEPA Region IX for visual inspections of the identified sites

- ▶ Completion of environmental sampling and/or investigations at seven SWMUs: FTO-001, FTO-002, FTO-010, FTO-014, FTO-025, FTO-026, and FTO-041
- ▶ Completion of the closure process for abandoned landfills in accordance with state and federal regulations
- ▶ Consolidation of all hazardous waste at the numerous motor pools in temporary storage buildings.

The status of the original 58 SWMUs identified in the IFR was summarized in the 1993 IFR update as follows:

- ▶ Nine SWMUs were no longer in existence
- ▶ Nine SWMUs had different associated units
- ▶ Two SWMUs were used differently than as described in the IFR
- ▶ One SWMU location was still in operation but stored its waste elsewhere
- ▶ Thirty-seven SWMUs were essentially unchanged since the IFR was prepared.

3.2.8 NPDES Permits

All four sewage treatment plants at Fort Ord are closed. Waste water is currently sent to the Monterey Regional Treatment Plant in Marina for treatment. A Pollution Prevention Plan has been submitted to the state for approval. If Fort Ord has any point sources in the future, they will be regulated under the Federal Water Pollution Control Act, Clean Water Act, and the NPDES Permit Program (40 CFR Parts 122, 125, and 136), National Pretreatment Standards (40 CFR Part 403), the State of California wastewater regulations, and AR 200-1, Chapters 3 and 8.

3.2.9 Oil/Water Separators

Oil/water separators are managed under the installation's Spill Prevention Control and Countermeasures program, in accordance with applicable federal regulations including Section 313(a) of the Clean Water Act and regulations 40 CFR Parts 110, 112, and 122, State of California oil pollution prevention regulations, DoD directives, and AR 200-1.

Eighty-four oil/water or oil/sand separators are located on Fort Ord. An inspection of 82 of these oil/water or oil/sand separators was completed during routine cleaning in March and May 1993. Separator vaults were generally found to be in good condition with very few cracks or holes. Only one vault (No. 4517) was found to have a small crack.

3.2.10 NRC Licensing

There are number of licensed radiation sources at Fort Ord. The Nuclear Medical Services (NMS) at Fort Ord (Hays Hospital) handles radioactive isotopes for medical uses. NMS holds a DOA authorization for the use of gallium-67, iodine-123, cobalt-57, and thallium-201. Decommissioning activities for the sources are described in Section 3.2.13.

3.2.11 Pollution Prevention

Pollution prevention at Fort Ord is managed through the installation hazardous waste management program in accordance with AR 200-1, Chapter 6, and applicable federal and state regulatory requirements. A pollution prevention plan was prepared for Fort Ord. A DRMO maintains a collection area for the storage of hazardous wastes prior to their transfer to an off-site facility for recycling.

3.2.12 Mixed Waste

There is no mixed waste generated at Fort Ord.

3.2.13 Radiation

Buildings and areas at Fort Ord identified as potential storage and maintenance areas for licensed radioactive materials or equipment were identified in a memorandum titled "Revised List of Buildings at Fort Ord Recommended for Radiological Decommissioning", dated December 8, 1993.

Radiological decommissioning activities began in accordance with the DHS in January 1994 and are scheduled to be completed by April 1994. Radiological surveys and sampling began on January 18, 1994. The survey team was briefed on the procedures for the radiological decommissioning surveys by personnel from USAEHA.

3.2.14 NEPA

The U.S. Army initiated a Disposal and Reuse EIS in late 1991 and filed a Notice of Intent for conducting the EIS on February 13, 1992. On December 23, 1993, the U.S. Army signed the EIS ROD. In preparing the EIS, the U.S. Army considered the environmental impacts of the disposal and reuse associated with the closure of Fort Ord, consistent with requirements of NEPA.

3.2.15 Lead-Based Paint

Lead-based paint surveys of pre-1979 family housing structures and barracks are being conducted by USAEHA in accordance with the U.S. Army guidance and 24 CFR Part 35. In 1978, the Consumer Products Safety Commission reduced the allowable lead concentration in residential paint to 0.06 percent. Based on the revised allowable lead concentrations, residential painted structures built prior to 1978 are considered to contain lead-based paint.

3.2.16 Medical Waste

The medical facilities at Fort Ord have an environmental coordinator to manage hazardous materials storage and handling and waste activities. The medical facilities at Fort Ord consist of 27 buildings including Red Cross, Hays Hospital, veterinary facilities, dental clinics, drug abuse centers, a medical supply warehouse, a pharmacy [AREEs 28, 13, 21, and 33] and others.

The following paragraphs briefly summarize the development of the medical facilities at Fort Ord and the waste disposal methods that have been employed.

The first hospital at Fort Ord was constructed in the 1940s. The hospital served the installation until 1969 when the Hays Hospital was constructed. Waste generated from the old hospital was incinerated in Building 1442 (AREE 13) and ash or unburnable material was deposited in an on-post landfill. The old hospital building is now used for administrative purposes.

The Hays Hospital (Building 4385, AREE 33) is a general medical and surgical facility. In addition to the hospital, there are presently 12 other medical clinics which are operated on an outpatient basis. Medical facilities store and handle small amounts of hazardous materials and chemicals. Medical waste generated from Hays Hospital and the medical clinics continued to be incinerated in Building 1442 until 1978 when a new incinerator (AREE 20) was constructed in the basement of Hays Hospital. From that point on, medical waste generated at Ord was incinerated either in Hays Hospital or in the old incinerator/burner (in Building 1442). After incineration, ash from the incinerators was taken to the onsite landfill; currently, the ash is taken to a commercial landfill.

From 1984 to the present, infectious medical waste has been separated out and taken to the autoclave located in Building 1442 (AREE 13). This infectious waste is appropriately sterilized and disposed off-post. Pathological waste continues to be incinerated in Hays Hospital. A silver recovery unit (AREE 21) is also located in the basement of Hays Hospital.

Wastes from NMS generated include (I)-125, contaminated swabs and absorbents, and contaminated test tubes. Currently, the waste absorbents are monitored and then incinerated with the pathological waste. The incinerator stack is not monitored during the process. (I)-125 is stored for 1 week in the nuclear waste section of the hospital and then 1 month in a radiological waste connex (AREE 38) located near the hospital. This allows (I)-125 to go through approximately 10 half-lives. The waste is monitored and disposed of into the sanitary sewer. The monthly maximum disposal is reported to be 300 microcuries with a normal yearly disposal of 0.5 curie. Disposal of up to 1 curie per year by this method is allowed.

Available records and documentation indicate that major spills or other incidents have not occurred at the Hays Hospital, Building 1442, the incinerator, or other medical facilities. The operating practices for handling and disposal of medical wastes have been reported to be well maintained and efficient. Effluent from the silver recovery system has been found to exceed guidelines for cadmium and lead. Previous releases of undiluted acetic acid have stained the concrete floor in the vicinity of the silver recovery unit. NFRAP has been recommended for the system.

3.2.17 Unexploded Ordnance

Prior to 1985, an open detonation area (Site 5) was used by the explosive ordnance disposal unit to detonate undersirable ammunition. Ordnance and explosive waste includes both UXO metal fragments and ordnance-related chemical residues.

For Ord's Ordnance and Explosive Waste activities resulted in the generation of two primary UXO management programs. Under the first program, UXO is being managed by the U.S. Army Engineer Division, Huntsville, Mandatory Center of Expertise for UXO at U.S. Army installations. Activities included in the UXO program include (1) an archive search to identify the types of ordnance and locations of ordnance use at Fort Ord, (2) a sampling program to verify information collected during the archive search, and (3) clearance of UXO.

Under the second program, evaluation of the waste that remains after ordnance is detonated is being managed by the USACE, Sacramento District, as part of Fort Ord's RI/FS. Activities included in the ordnance-related waste evaluation program include (1) a research task to define the conceptual model for potential impacts to human health and the environment from metals and other ordnance-related chemicals, (2) a sampling and analysis program to evaluate the nature and extent of metal and other ordnance-related chemical contamination in areas of ordnance use at Fort Ord, and (3) a risk assessment and FS using data collected during the sampling and analysis program.

3.2.18 Other Compliance Programs

An additional compliance program issue at Fort Ord is the air quality program. Three major studies have been conducted at the installation. Each study and its results are summarized below.

Solid Waste Air Quality Assessment Test at the Fort Ord Landfills (OU 2). In 1987, the Solid Waste Air Quality Assessment Test was performed to evaluate the presence and distribution of landfill gas and the ambient air quality in the vicinity of the landfill. The landfill gas contained methane, carbon dioxide, and nitrogen in ratios consistent with those found in landfills of similar age. Methane was found to have migrated outside the landfill into the soil of bordering recreational areas north of Imjin Road. No bare areas or dead vegetation were found, however, that might indicate that methane was migrating to the surface and presenting a health or explosive hazard. Sampling in the air space immediately above the landfill detected 6 ppm)total organic compounds.

Toxic Air Emissions Inventory, Headquarters 7th Infantry Division and Fort Ord. The Toxic Air Emissions Inventory, conducted in 1990, measured emission rates of chemicals from various sources around the installation when it was fully active in 1990. This investigation quantified emissions from diesel-fired boilers, natural gas-fired boilers, pathological waste incinerator, stationary engines, munitions use, painting booths, offset printing presses, miscellaneous paint and solvent use, ozalid (blueprint) printers, gasoline storage and transfer, and laboratory chemical use.

The six most significant emissions to the air and their sources were found to be:

- ▶ Gasoline vapors (111,000 lbs/yr) from filling stations
- ▶ Toluene (2,700 lbs/yr) from paint and solvent use
- ▶ Chlorofluorocarbons (CFCs) (1,900 lbs/yr) from paint booths
- ▶ Ammonia (1,550 lbs/yr) from munitions and ozonid
- ▶ Trichloroethylene (1,350 lbs/yr) from solvent use.

The remaining chemical emissions to air were estimated to amount to less than 900 lbs/yr.

Site 3 - Beach Trainfire Ranges. During the summer of 1993, high-volume ambient air monitoring for particulates was conducted in three locations in the eastern (downwind) side of Site 3. The monitoring was conducted to address the concern for the possible presence of heavy metals related to expended munitions (bullets) in the target area. The samples with the greatest mass of particulates were analyzed for lead, copper, zinc, and antimony. Analytical results will be available in spring 1994.

3.3 Status of Natural and Cultural Resources Programs

Natural and cultural resources at Fort Ord are managed in accordance with AR 420-74 and 420-40, DoD Directive 4700.4 and 4710.1, and applicable federal and state regulations and statutes. Fort Ord has complied with all applicable natural and cultural resources requirements. Natural and cultural resource identification may be required prior to economic redevelopment and property reuse and is also considered during the environmental restoration remedy selection process so that accidental impacts to these resources can be prevented. Fort Ord has a natural/cultural resources management plan.

This section describes the current status of the natural and cultural resource program established at Fort Ord including identification and management of vegetation, wildlife, wetlands, and other preservation areas; rare, threatened and endangered species; and cultural resources.

3.3.1 Vegetation

A vegetative survey of Fort Ord indicated that six general vegetation cover types are found at Fort Ord: coastal strand (ice plants, dune grasses, and wildflowers), coastal chaparral (manzanita, sagebrush, and chamise), oak woodland (native live oak, Monterey pine, and Monterey cypress), grassland (soft chess, filaree, and rye grasses, riparian woodland, and freshwater marsh (cattails, rushes, and sedges). One of the largest remaining bunchgrass communities in the Coast Ranges occurs in the grassland cover type at Fort Ord. Currently, a grounds maintenance program is in place at the installation to maintain the vegetation.

3.3.2 Wildlife

Monterey Bay, adjacent to Fort Ord, contains five types of marine habitat: submarine canyon, near-shore sublittoral, rocky intertidal, sandy beach intertidal, and kelp forest. Only two of these habitats, sandy beach intertidal and near-shore sublittoral, are within the Fort Ord restricted firing range impact area that extends 8,500 feet offshore. Monterey Bay supports a wide array of temperate cold-water organisms, with occasional influxes of warm-water species. There are more species of marine algae in the area than anywhere else in the temperate northern

hemisphere; the richness of invertebrate species also rivals that of any marine environment of similar size. In addition, 26 species of marine mammals and 94 species of seabirds have been observed in Monterey Bay and the surrounding area. Monterey Bay has a large, economically important fishing industry and surf fishing along the Fort Ord coastline is rated as excellent.

3.3.3 Wetlands

At Fort Ord, wetlands are widespread and associated with both natural and artificial features. Remnant wetlands occur in the foredune along Highway 1 in the central dune scrub community. Numerous seasonal wetlands occur throughout the central maritime chaparral community within the inland firing range area, at Pete's Pond in the Main Garrison, and in grasslands near Machine Gun Flats and northeast of the Laguna Seca Recreation Area. Wetlands occur in and adjacent to the Salinas River and Toro Creek on alluvial terraces. Several reservoirs have been constructed throughout the installation (e.g., Mudhen Lake south of the East Garrison, and within Pilarcitos and Barloy canyons in the southeast portion of the installation). Wetlands have also developed within percolation ponds, sludge beds, and evaporation ponds at sewage treatment plants at Fort Ord (i.e., Main Garrison, Ord Village, East Garrison, FAAF).

Wetlands at Fort Ord support plant communities that are highly variable in structure and composition. Characteristic plants in seasonal wetlands include rabbitsfoot grass (*Polypogon monspeliensis*), perennial ryegrass (*Lolium perenne*), and swamp knotweed (*Polygonum coccineum*); ponds and reservoirs support cattail (*Typha angustifolia*) and bulrush (*Scirpus californicus*); alluvial terraces support willow (*Salix* spp.) and Fremont cottonwood. In addition to providing habitat for resident invertebrates and amphibians, wetlands at Fort Ord attract animals from surrounding upland habitats, local shorebirds, and migratory waterfowl.

Approximately 64 acres of vernal pools and ponds exist throughout Fort Ord. Vernal pools are internally drained basins in low-lying grassland areas that collect rainfall and surface runoff. Water accumulates in these depressions because of an impervious soil layer that prevents infiltration of water into the soil profile. The frequency and duration of this seasonal inundation varies among vernal pools, depending on the size of the basin and its watershed, soil depth to the impervious layer, and patterns of rainfall. Vernal pools provide habitat for many special-status species which are adapted to complete their life cycles under the extreme conditions of winter and spring inundation and summer and fall desiccation.

3.3.4 Designated Preservation Areas

There are several different habitats which exist on Fort Ord. One sensitive habitat is located along approximately 4 miles of beach frontage adjacent to the Monterey Bay which has been designated as National Marine Sanctuary. The habitat is coastal strand and dune communities. The vegetation that characterizes dune habitats is adapted to the harsh environmental conditions resulting from salt spray, strong winds, shifting sand and low soil moisture. This habitat is vulnerable to invasion of non-native species which compete the native vegetation. The dunes are habitat for the following special-status species: the Smith's blue butterfly, Monterey and robust spineflowers, Monterey sand gilia, coast wallflower (*Erysimum ammodendrum*) and the California black legless lizard (*Anniella pulchra nigra*).

On 19 October 1993, Fort Ord received a Final Biological Opinion from the U.S. Fish and Wildlife Service (USFWS). The Biological Opinion for the Disposal and Reuse of Fort Ord resulted from "Formal Consultation" under the authority of Section 7 of the Endangered Species Act. The Opinion requires the U.S. Army to develop and implement a Habitat Management Plan (HMP) which would comply with the Terms and Conditions in the Opinion. The goal of the HMP is to, "promote preservation, enhancement, and restoration of habitat and populations of HMP species while allowing implementation of a community based reuse plan that promotes economic recovery after closure of Fort Ord."

The Multispecies HMP has been signed by the Army and the USFWS and is currently being reviewed by the California Department of Fish and Game. Cleanup projects which involve disturbing sensitive habitats outside proposed development areas, are now required to implement HMP mitigation measures which are designed to minimize the impacts to sensitive species and habitats.

3.3.5 *Rare, Threatened and Endangered Species*

There have been 450 plant taxa and over 260 vertebrates identified at Fort Ord and of those species there are 23 special status animal species and 22 special status plant species. This information is described in more detail in the Fort Ord Flora and Fauna Baseline Study. Special status is defined as either being federally listed as threatened, endangered, candidates or proposed threatened and endangered. Over special status categories are California State listed species and plants which are included on the California Native Plant Society's list. Fort Ord has three federally endangered species, the Smith's Blue Butterfly (*Euphilotes enoptes smithi*), Monterey Sand Gilia (*Gilia tenuiflora ssp. arenaria*), and the robust spinnflower (*Chorizanthe robusta*). Fort Ord also has two federally threatened species, the Monterey spineflower (*Chorizanthe pugens*) and the western snowy plover (*Charadrius alexandrinus nivosus*). Fort Ord also is home to one state endangered plant called the Seaside bird's beak (*Cordylanthus rigidus*).

On 5 May 1993, in compliance with the EIS, the U.S. Army submitted a Biological Assessment to the USFWS. At issue were the impacts on threatened and endangered species resulting from Fort Ord installation closure and reuse. The Biological Assessment recommended that the U.S. Army could provide open spaces for development and at the same time protect special-status species. This would be accomplished by setting aside large contiguous and highly diverse parcels of habitat rather than numerous smaller parcels which would be less beneficial to special status-species.

3.3.6 *Cultural Resources*

All federal agencies, including the U.S. Army, must investigate their properties to determine whether those properties may be eligible for inclusion on the National Register of Historic Places "Eligibility" alone qualifies the property for full historic status. Section 106 of the National Historic Preservation Act of 1966 (as amended 1980) requires federal agencies to allow the Advisory Council on Historic Preservation to comment on any undertaking that may affect those resources eligible for the National Register. The conveyance of an eligible historic property without restrictions would be an "undertaking" leaving an adverse effect.

USACERL has consulted with the State Historic Preservation Officer (SHPO) which resulted in an Archeological Resources Survey of Fort Ord. Potentially significant sites and sites which are National Register eligible have been identified. These sites will be safeguarded against potential disturbance by implementation of a Programmatic Agreement which is currently being developed between the U.S. Army and the SHPO.

Fort Ord Environmental Division has taken interim compliance actions in order to expedite the environmental cleanup which is necessary prior to completion of the Programmatic Agreement. The interim action involves Section 106 consultation which has been completed for property not being transferred to federal agencies. The U.S. Army is currently in the process of developing a Memorandum of Agreement for the rest of the installation prior to beginning cleanup activities.

Fort Ord Environmental Division has taken interim compliance actions in order to expedite the environmental cleanup which is necessary prior to completion of the Programmatic Agreement. The interim action involves Section 106 consultation which has been completed for property not being transferred to federal agencies. The U.S. Army is currently in the process of developing a Memorandum of Agreement for the rest of the installation prior to beginning cleanup activities.

3.3.7 Other Resources

No other resources have been identified for Fort Ord, thus no strategy is planned.

3.4 Environmental Condition of Property

In October 1992, Public Law 102-426, the CERFA amended Section 120(h) of the CERCLA and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property owned, to identify property where no hazardous substances were stored, released, or disposed of. These requirements retroactively affect the U.S. Army BRAC 88 and BRAC 91 environmental restoration activities, and are being implemented at BRAC 93 sites concurrently with their ENPAs. The primary CERFA objective is for federal agencies to expeditiously identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the U.S. Army transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

An investigation to identify the environmental condition of property in compliance with CERFA has been completed for Fort Ord. CERFA investigations included the following assessment procedures:

- ▶ Review of historical installation records;
- ▶ Interviews with current and past installation employees; and
- ▶ A visual site inspection of the installation.

During the CERFA investigation process, evidence was gathered that screened installation property into four categories, or parcel types. These categories are CERFA parcels, CERFA parcels with qualifiers, CERFA disqualified parcels, and CERFA excluded parcels as defined below.

An environmental condition of property map provided as Figure 3-2 identifies property at the installation based on these four parcel categories. The parcels are delineated using a 1-acre square grid for boundary definition. Where CERFA disqualified parcels and CERFA parcels with qualifiers have coincided, the overlapped area has been designated CERFA disqualified.

3.4.1 CERFA Parcels

CERFA parcels are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. CERFA parcels also include any portion of the installation which once contained non-CERCLA hazards, including asbestos, UXO, lead-based paint, and radionuclides, but has since been fully remediated.

3.4.2 CERFA Parcels with Qualifiers

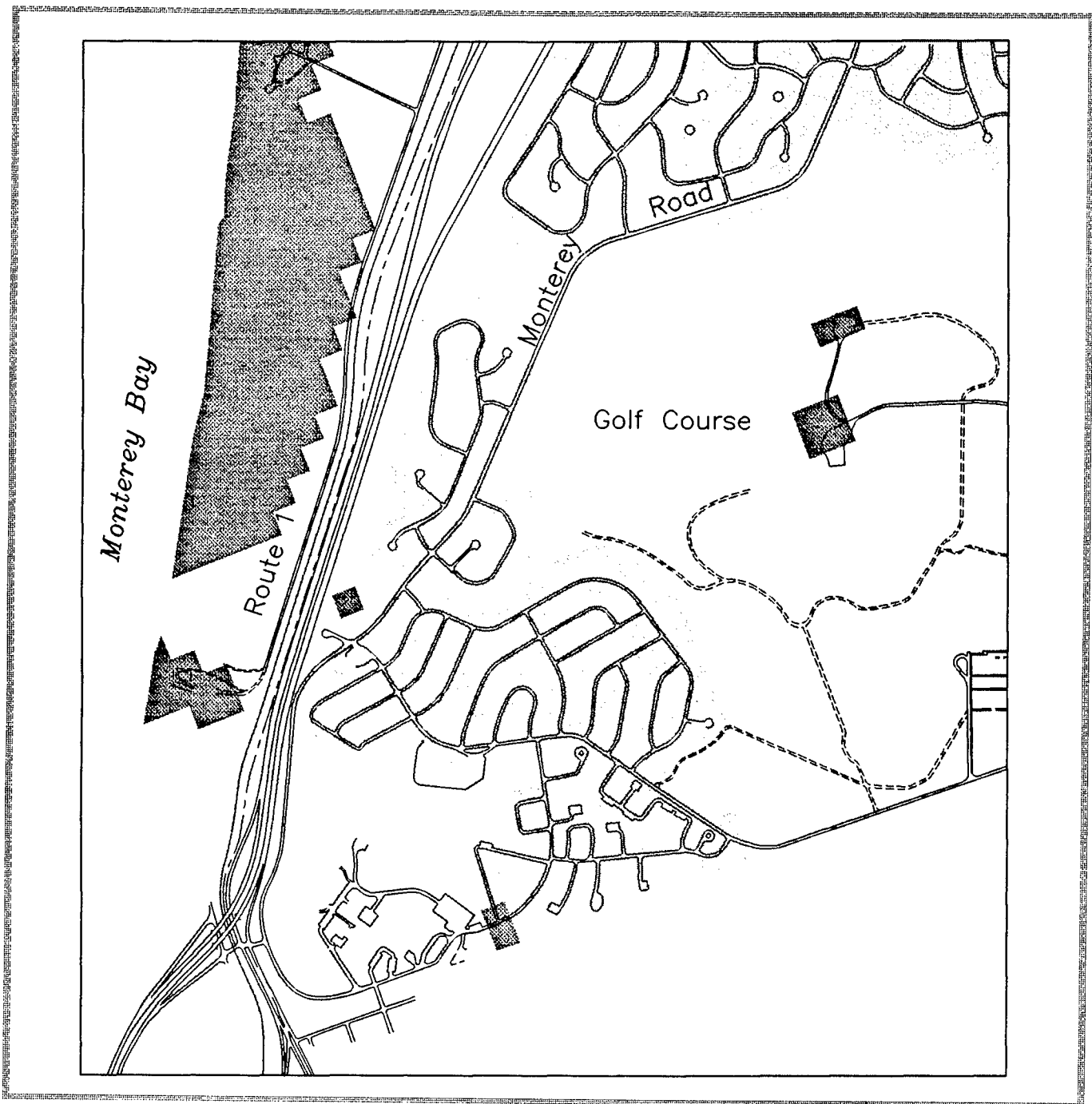
CERFA parcels with qualifiers are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. Parcels do, however, contain non-CERCLA related hazards including the presence of asbestos, UXO, lead-based paint, radionuclides, radon, or stored (not in use) PCB containing equipment.

3.4.3 CERFA Disqualified Parcels

CERFA disqualified parcels are those portions of the installation real property for which there is evidence of CERCLA hazardous substance, petroleum, or petroleum derivative storage for one year, release or disposal, or threatened by such release or disposal. CERFA disqualified parcels also include any portion of the installation containing a PCB release or disposal, any explosive ordnance disposal locations, any storage sites of chemical ordnance, and any areas in which CERCLA hazardous substances or petroleum products have been released or disposed and subsequently fully remediated.

3.4.4 CERFA Excluded Parcel

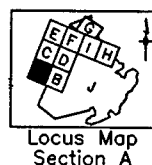
CERFA excluded parcels are those portions of the installation real property retained by the DoD, and therefore not explicitly investigated for CERFA. CERFA excluded parcels also include any portion of the installation which have already been transferred by deed to a party outside the federal government, or by transfer assembly to another federal agency.



EXPLANATION

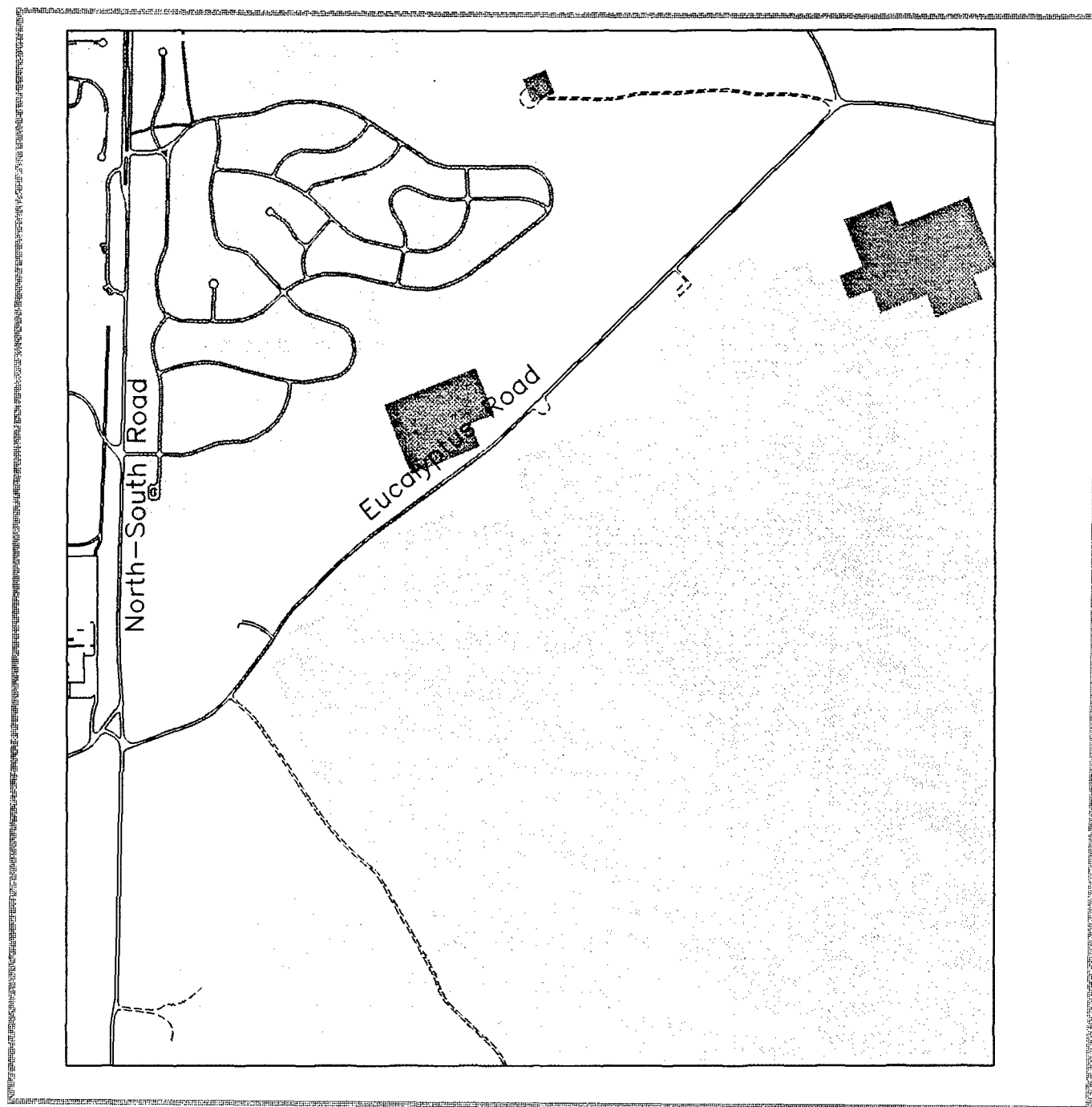
- Installation Boundary
- CERFA Parcel
- CERFA Parcel with Qualifier(s)
- CERFA Disqualified Parcel
- CERFA Excluded Parcel

Environmental
Condition
of Property



0 650 1300
FEET

Figure 3-2A



EXPLANATION

--- Installation Boundary



CERFA Parcel



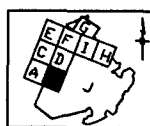
CERFA Parcel with Qualifier(s)



CERFA Disqualified Parcel



CERFA Excluded Parcel



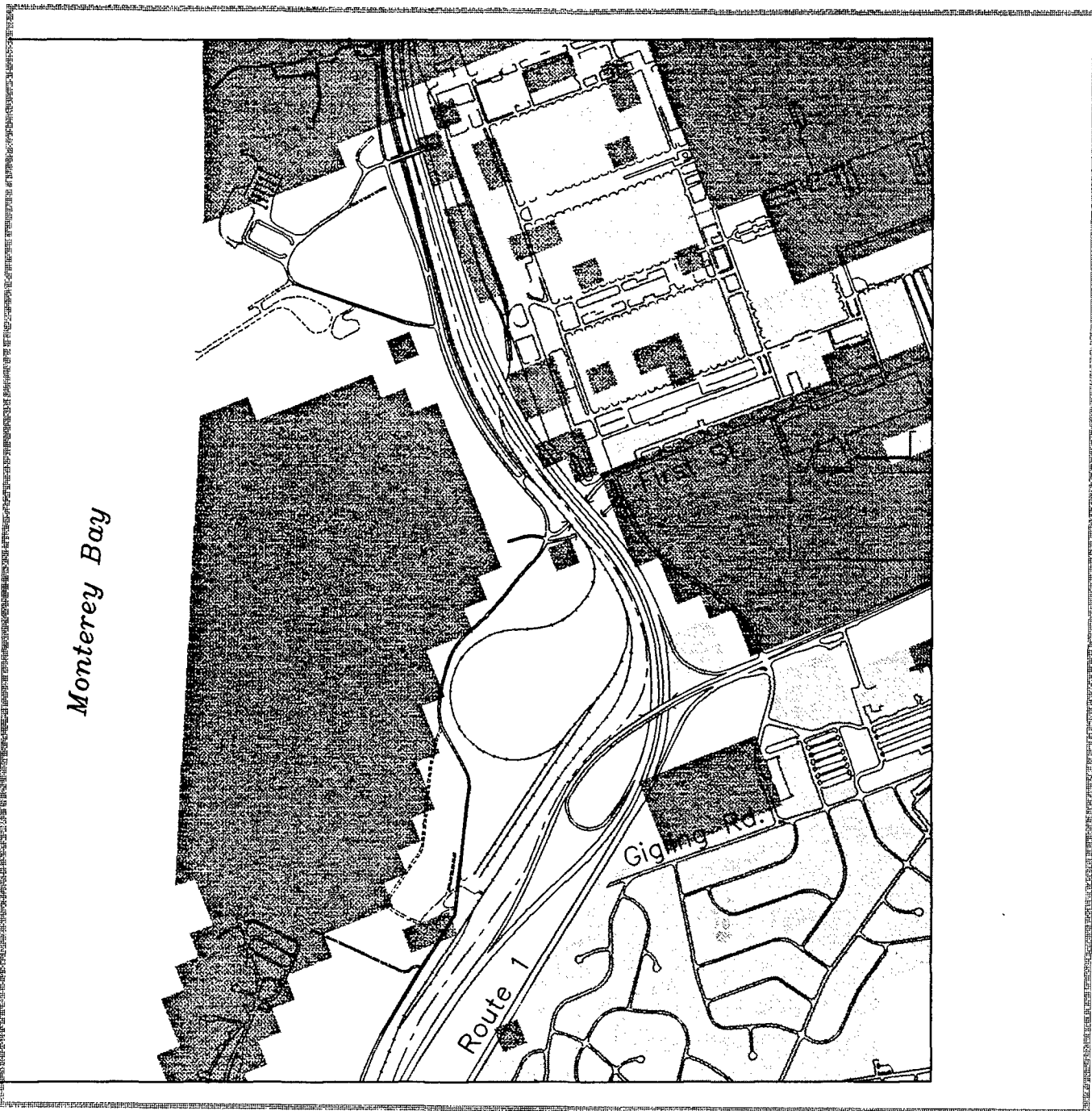
Locus Map
Section B

0 650 1300
FEET



Environmental
Condition
of Property

Figure 3-2B



EXPLANATION

- Installation Boundary
- CERFA Parcel
- CERFA Parcel with Qualifier(s)
- CERFA Disqualified Parcel
- CERFA Excluded Parcel

Environmental
Condition
of Property

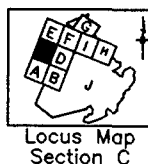
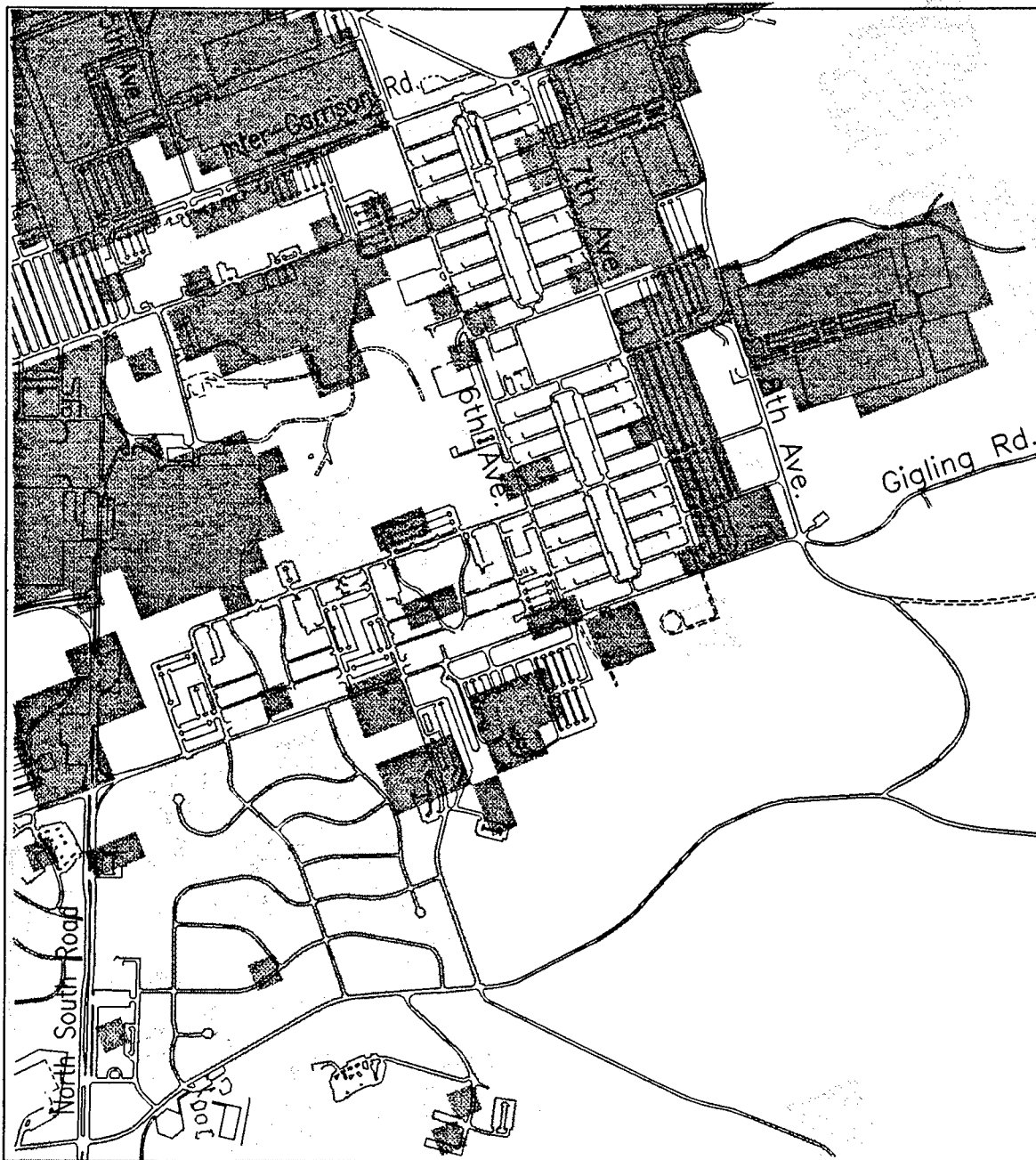






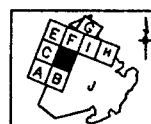
Figure 3-2C



EXPLANATION

- Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

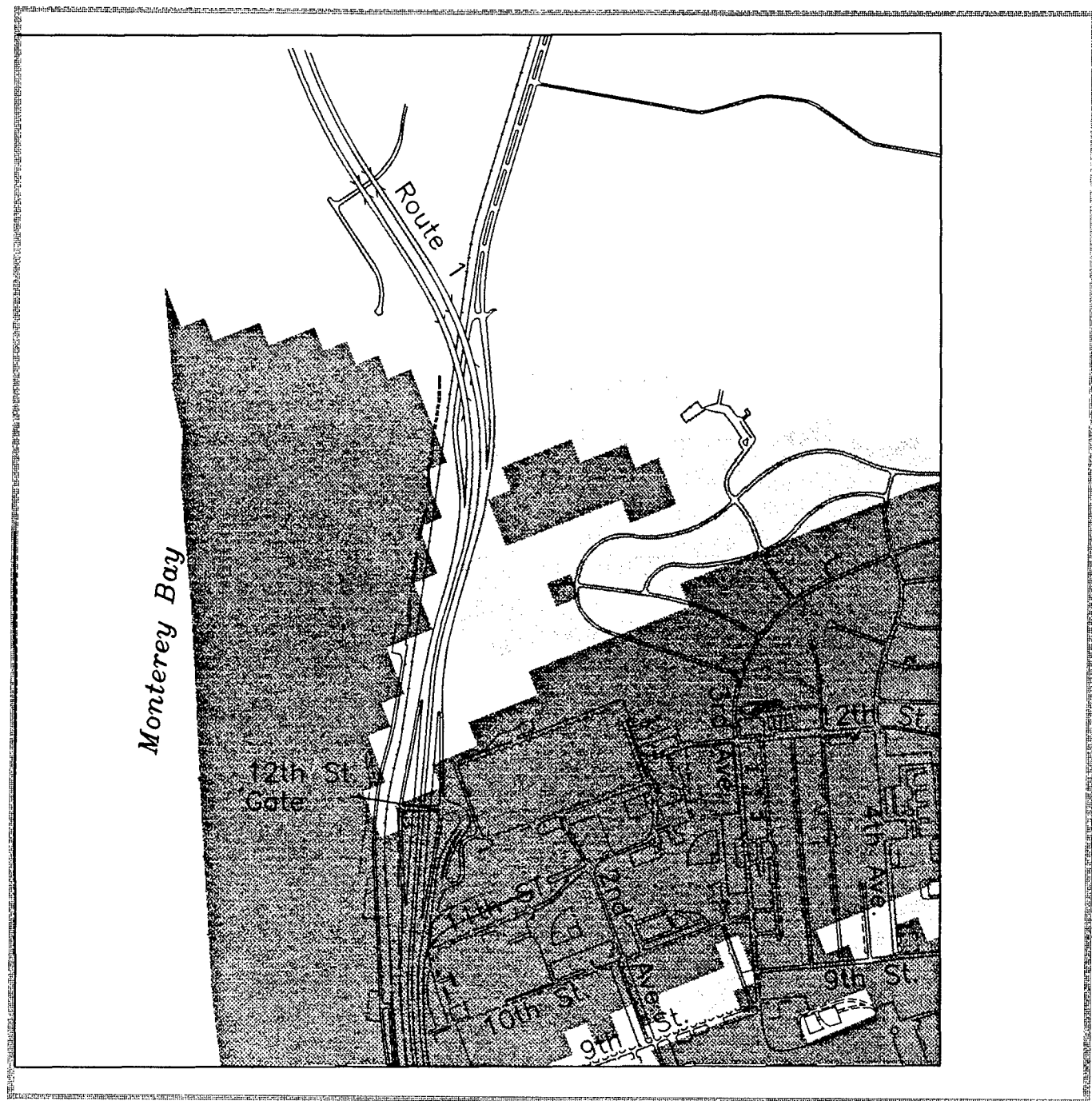
Environmental
Condition
of Property








Locus Map
Section D

0 650 1300
FEET

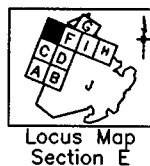
Figure 3-2D



EXPLANATION

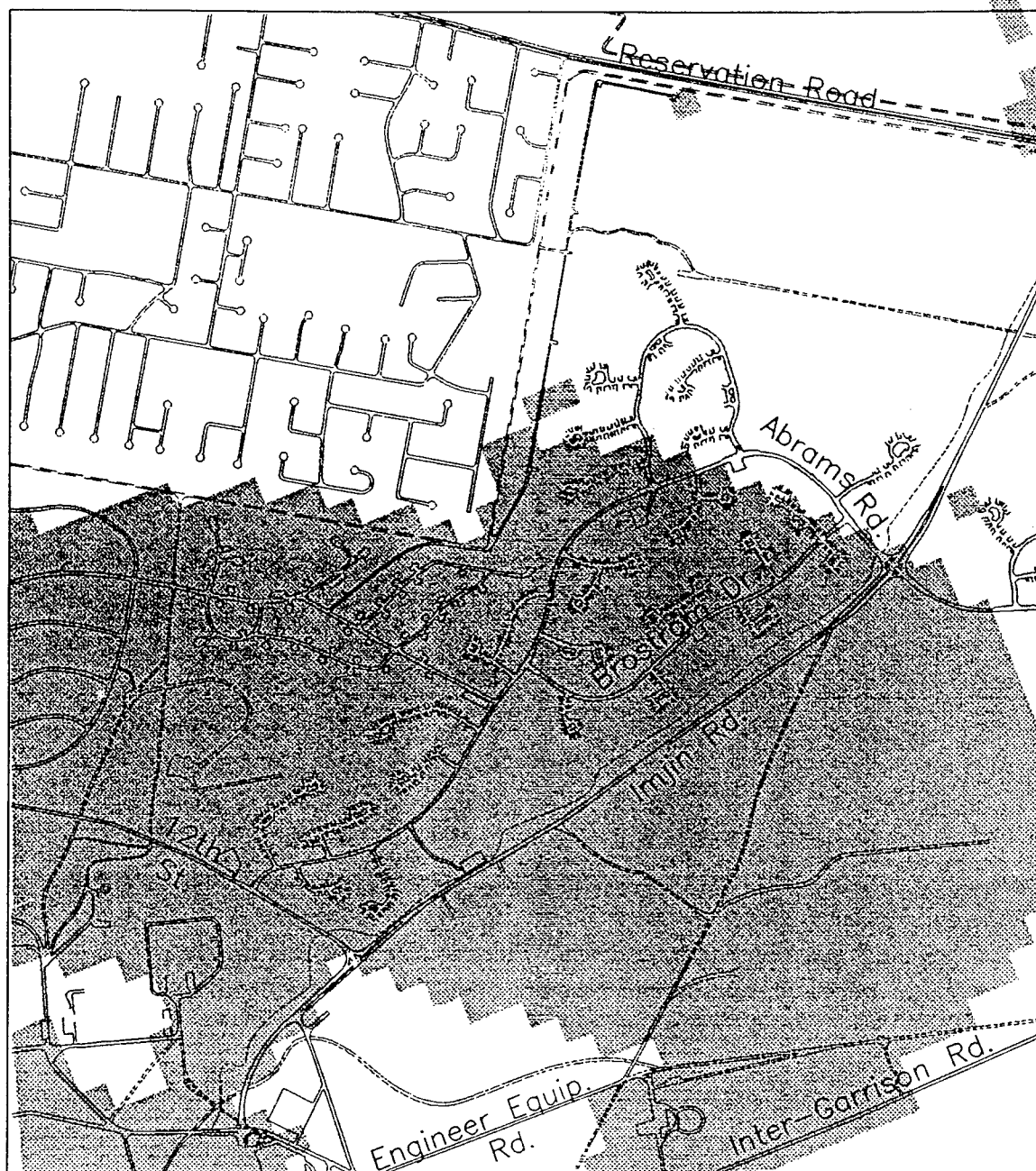
-  Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

Environmental
Condition
of Property







0 650 1300
FEET

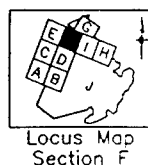
Figure 3-2E



EXPLANATION

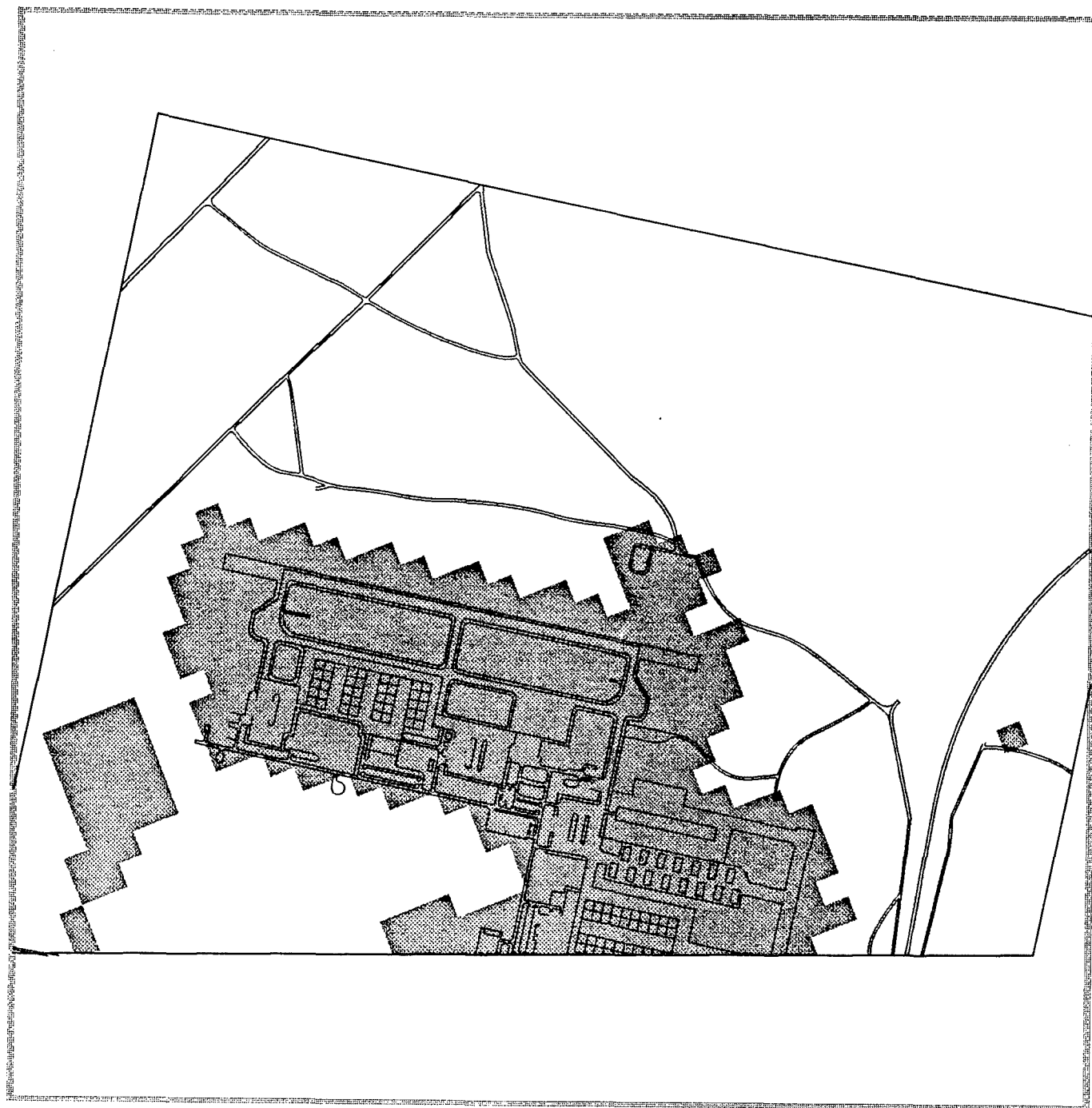
- Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

Environmental
Condition
of Property







0 650 1300
FEET

Figure 3-2F



EXPLANATION

- Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

Environmental
Condition
of Property

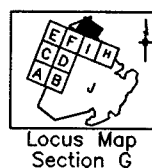
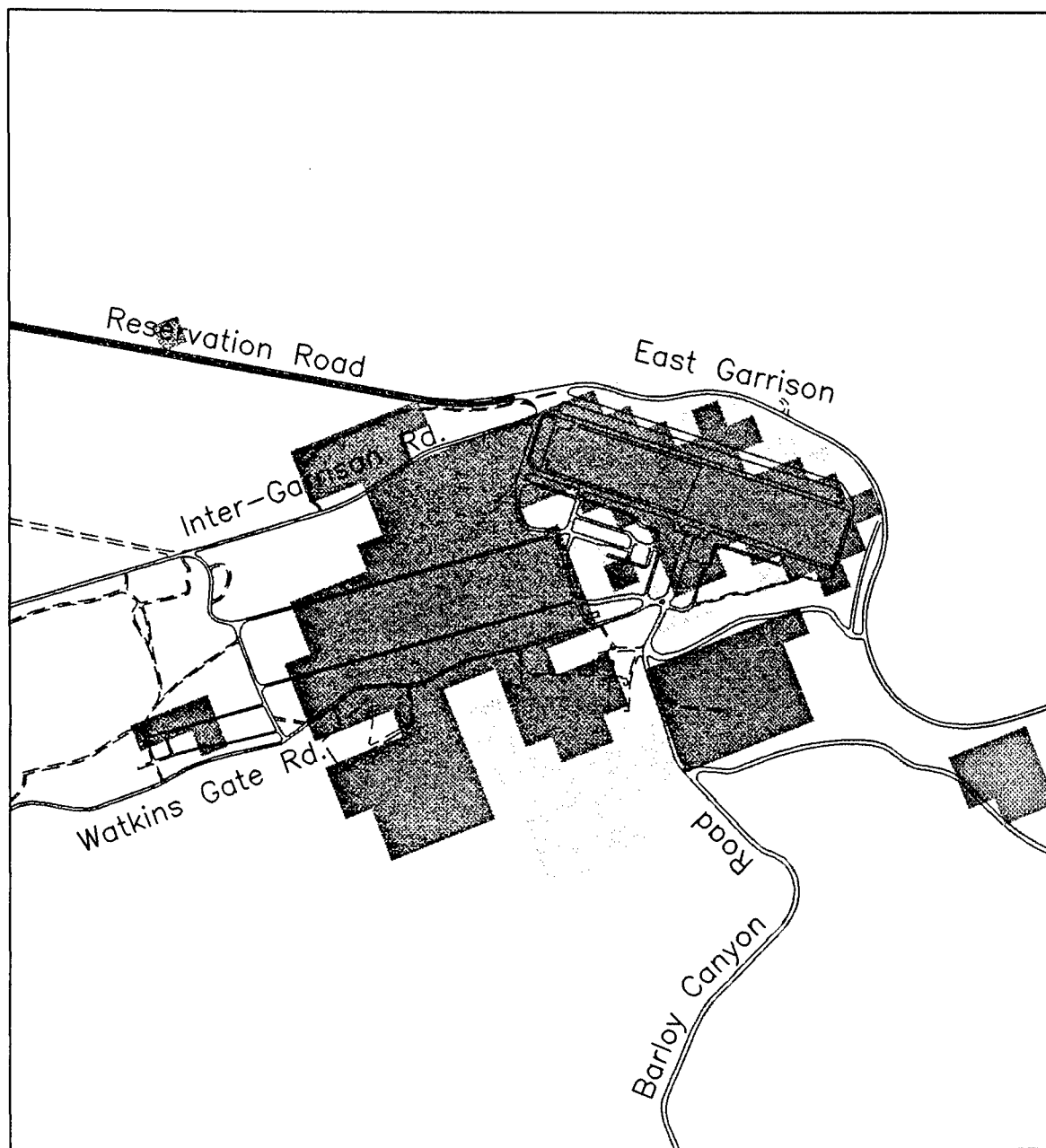






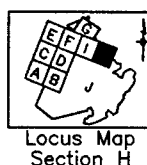
Figure 3-2G



EXPLANATION

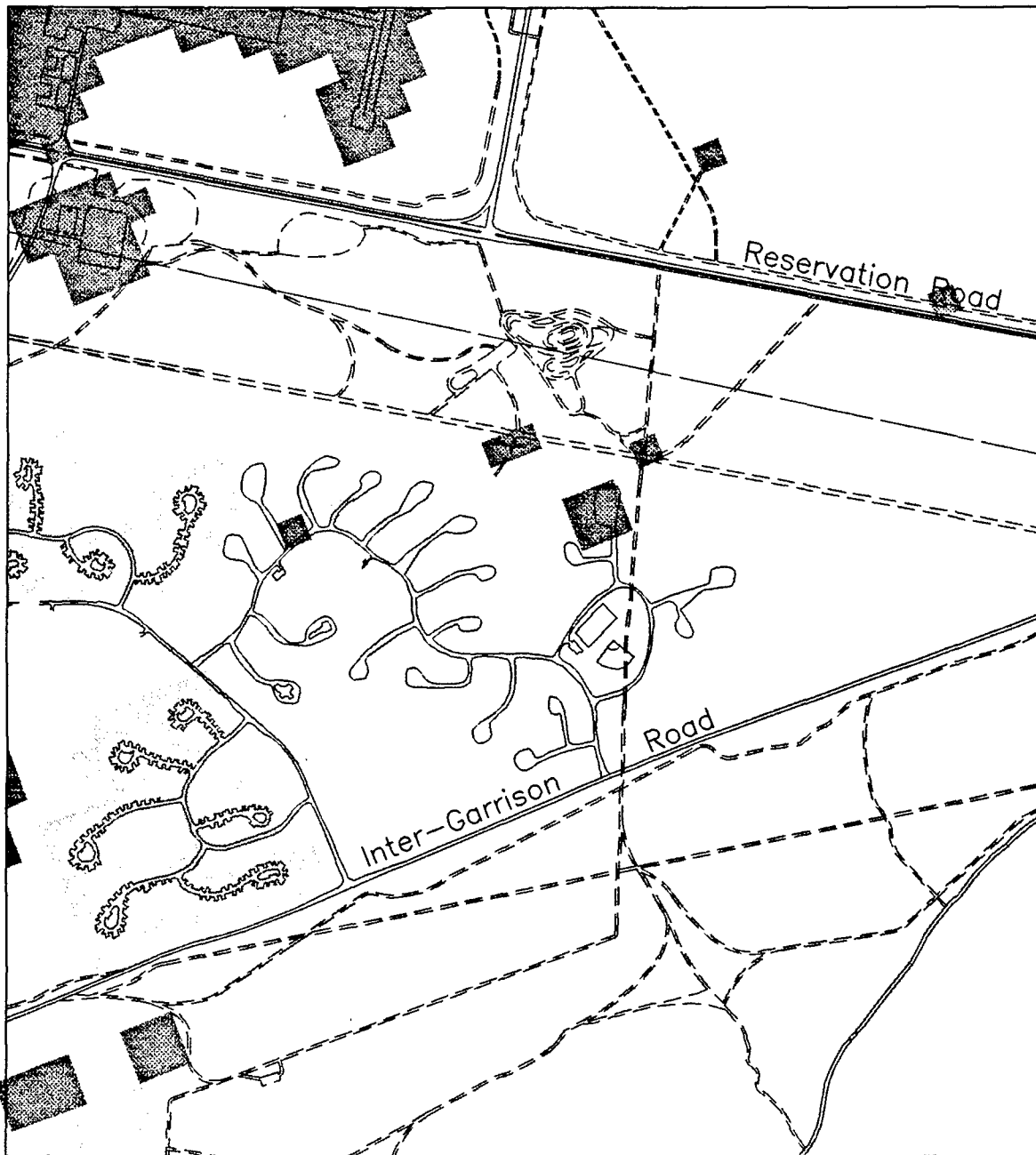
- Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

Environmental
Condition
of Property



0 650 1300
FEET

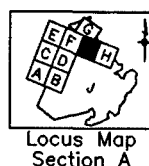
Figure 3-2H



EXPLANATION

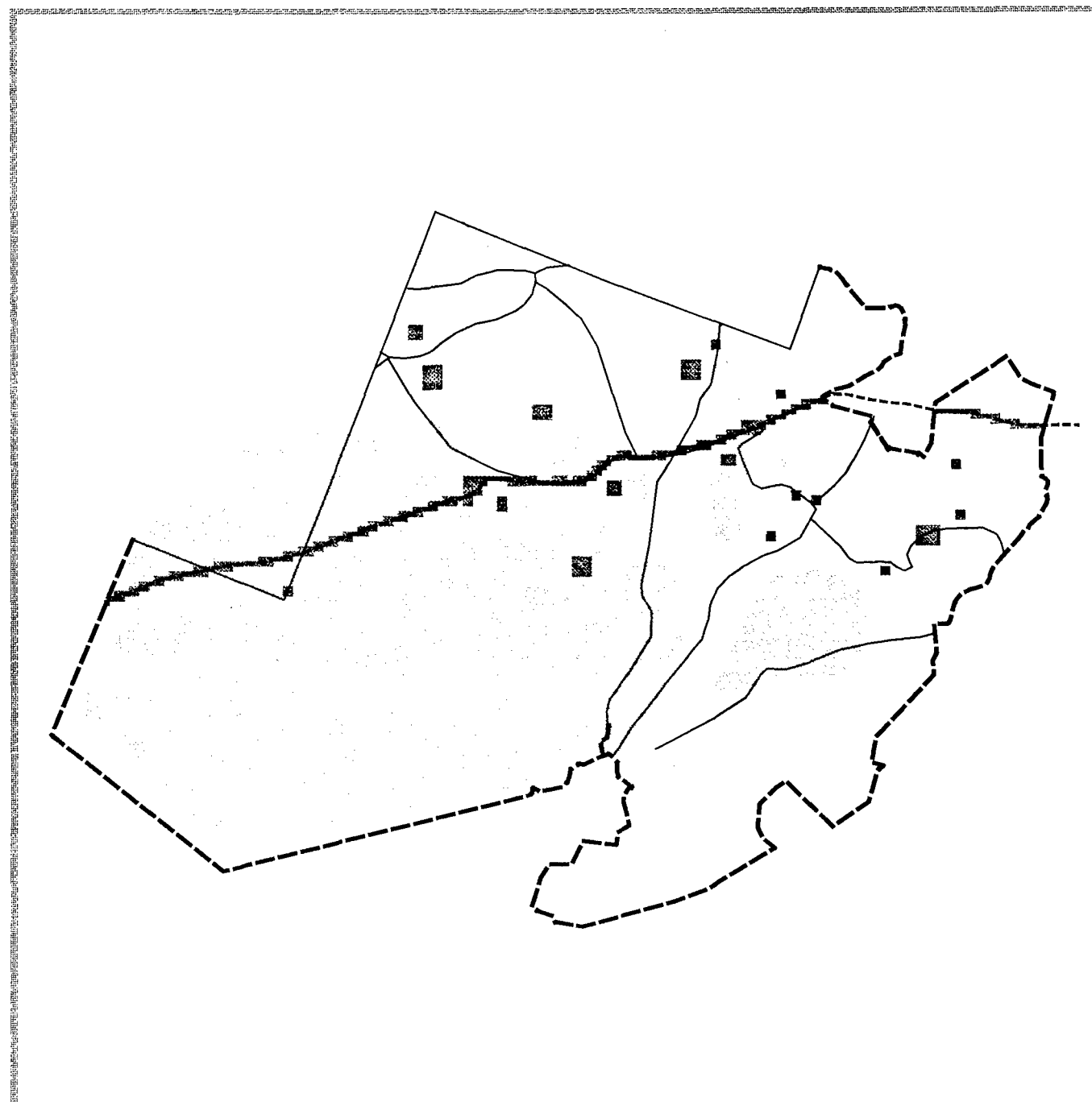
- Installation Boundary
- CERFA Parcel
- CERFA Parcel with Qualifier(s)
- CERFA Disqualified Parcel
- CERFA Excluded Parcel

Environmental
Condition
of Property







0 650 1300
FEET

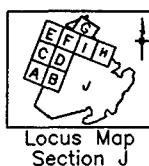
Figure 3-21



EXPLANATION

- Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

Environmental
Condition
of Property



0 3250 6500
FEET

Figure 3-2J

3.4.5 Suitability of Installation Property for Transfer by Deed

SARA Title I, Section 120 to CERCLA requires that any deed for federal property being transferred on which any hazardous substance was stored for one year or more, known to have been released, or disposed of, contain to the extent such information is available the following information:

- ▶ A notice of the type and quantity of such hazardous substances,
- ▶ Notice of the time at which such storage, release, or disposal took place,
- ▶ A description of the RA taken, if any, and
- ▶ A covenant warranting that all RA necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer, and any additional RA found to be necessary after the date of such transfer shall be conducted by the United States.

The U.S. Army has begun the identification of property suitable for transfer under CERCLA through the CERFA identification process (see Section 3.4.5). The CERFA process is an effective screening mechanism to expeditiously identify those properties immediately transferable. These properties, designated CERFA parcels and CERFA parcels with qualifiers, have had no activities which could potentially preclude them from transfer under CERCLA.

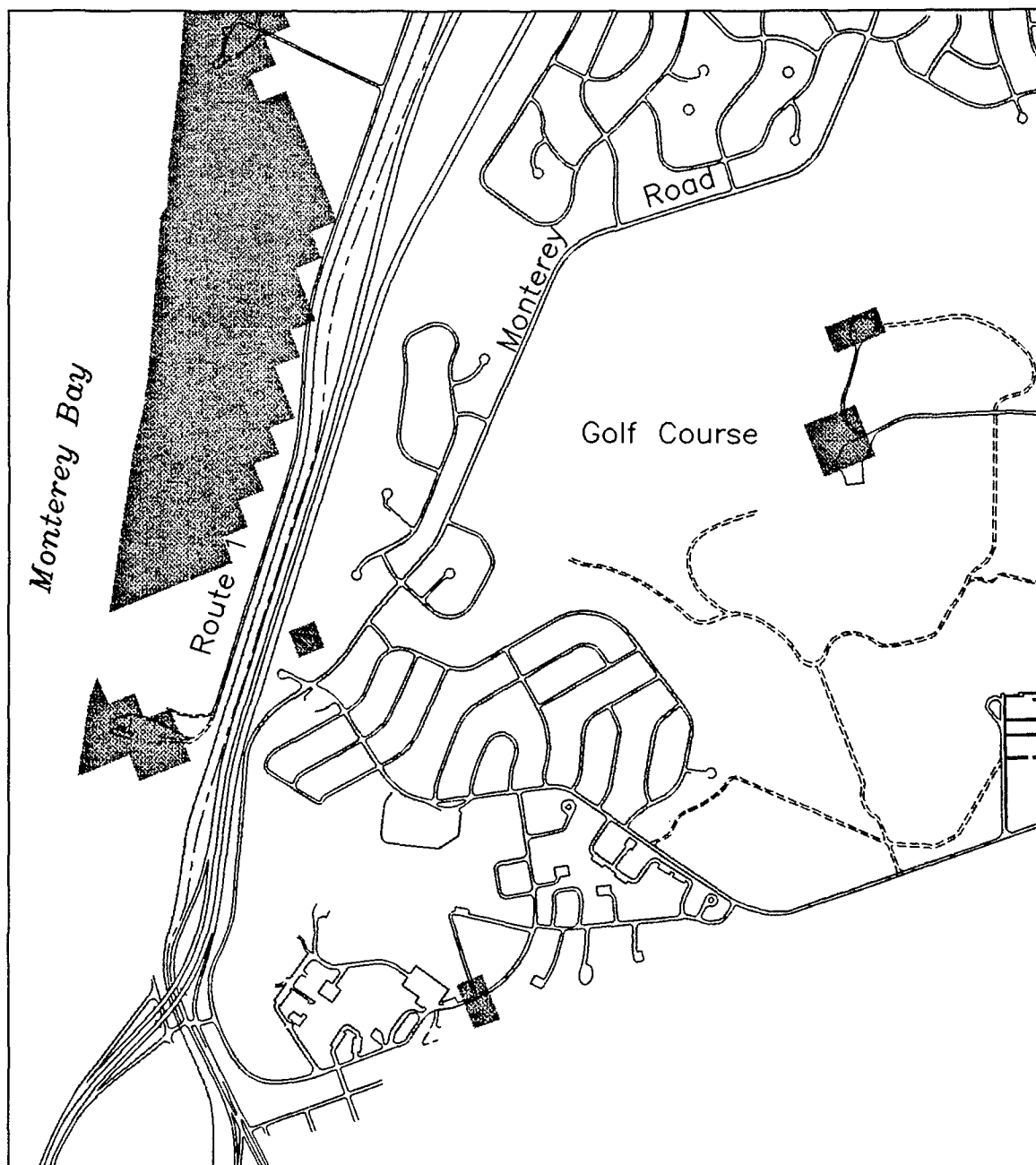
CERFA disqualified properties consist of those which have evidence of CERCLA hazardous substance storage, POL storage, hazardous substance releases or POL releases. Under SARA Title I, Section 120 to CERCLA only those disqualified properties which have evidence of a hazardous substance release which has not been remediated and for which there is no "remedy in place" are currently unsuitable for transfer to a non-federal entity. These properties typically represent a small portion of the CERFA disqualified property.

Figure 3-3 identifies CERFA parcels and CERFA parcels with qualifiers which are immediately transferable under CERCLA as well as CERFA disqualified parcels. The U.S. Army is continuing the suitable property for transfer identification process including the refinement of CERFA disqualified parcels into those suitable and unsuitable for transfer under CERCLA.

3.5 Status of Community Involvement

Community relations activities that have taken place at Fort Ord to date are summarized below.

- ▶ **EIS Process.** During the development of the disposal EIS, numerous public scoping meetings were held. Public comments were received by Fort Ord and were addressed in the final version of the EIS.
- ▶ **FFA Process.** In November 1990, the U.S. Army, USEPA, California DHS (Cal EPA, DTSC), and the California RWQCB (Central Coast



EXPLANATION

--- Installation Boundary

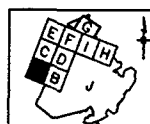
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

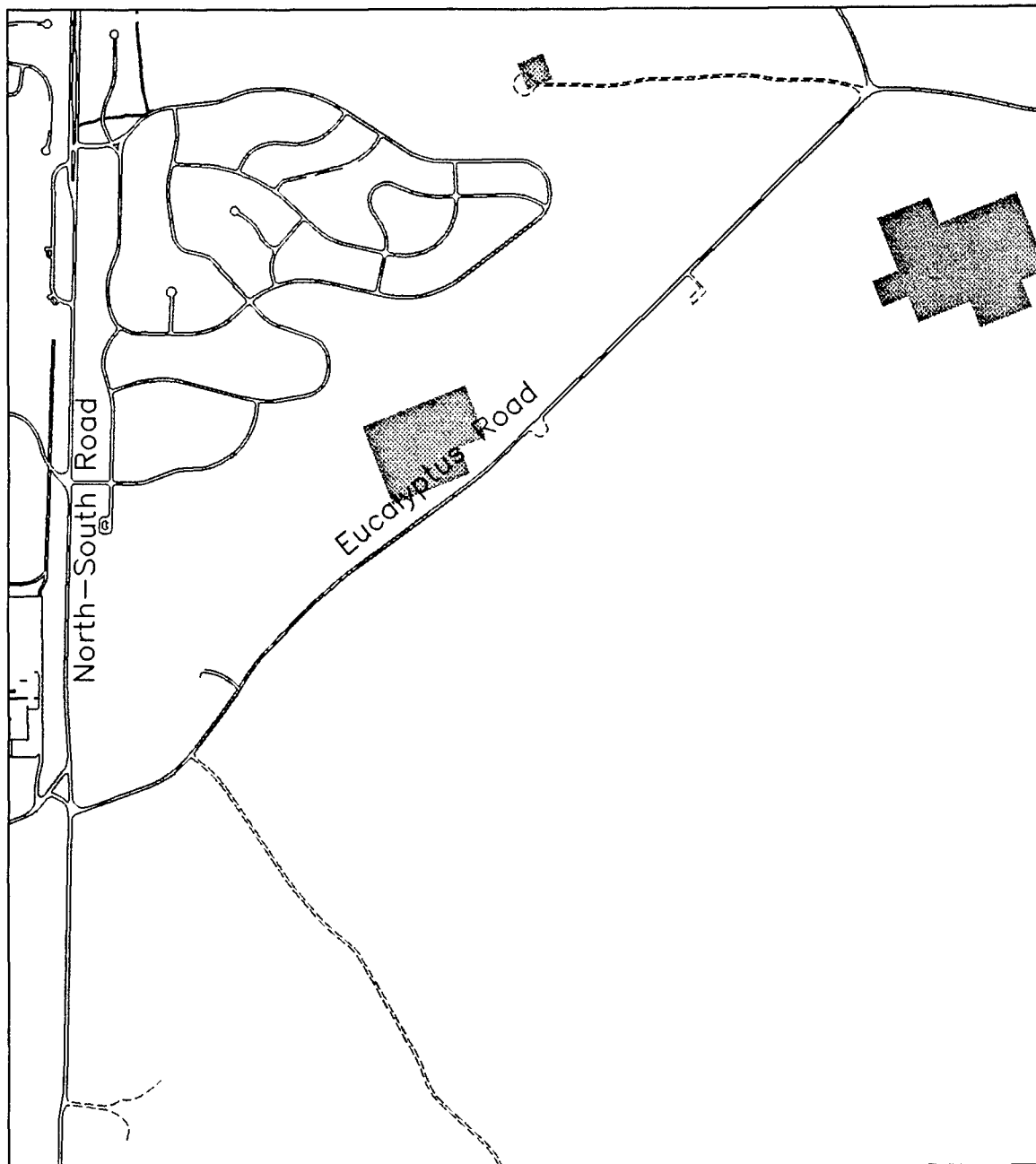


Locus Map
Section A

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3A




EXPLANATION

--- Installation Boundary

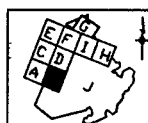
 CERFA Parcel and CERFA Parcel with Qualifier(s) *

 CERFA Disqualified Parcel **

 CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

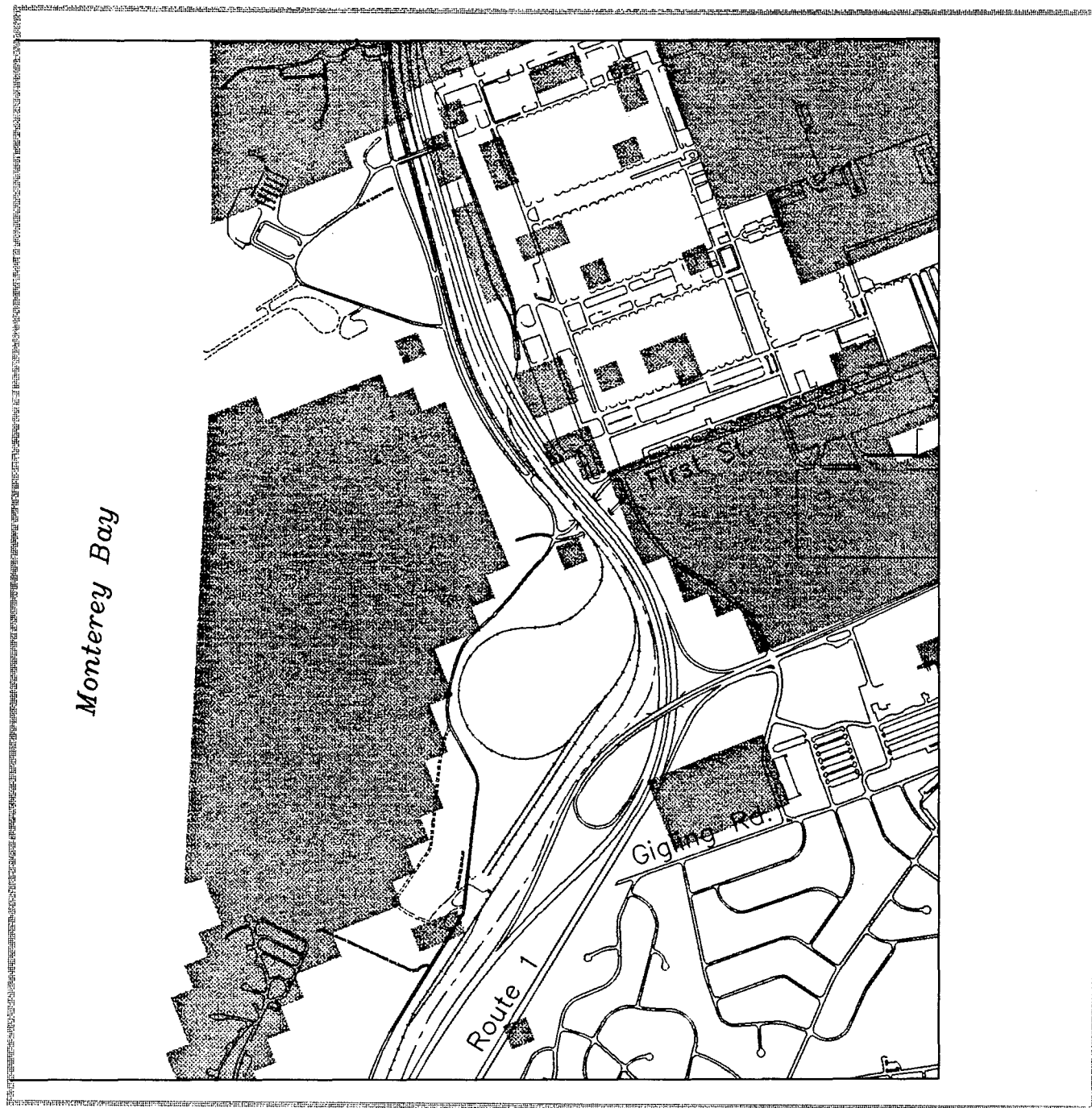


Locus Map
Section B

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3B



EXPLANATION

--- Installation Boundary

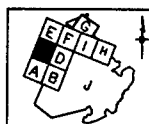
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

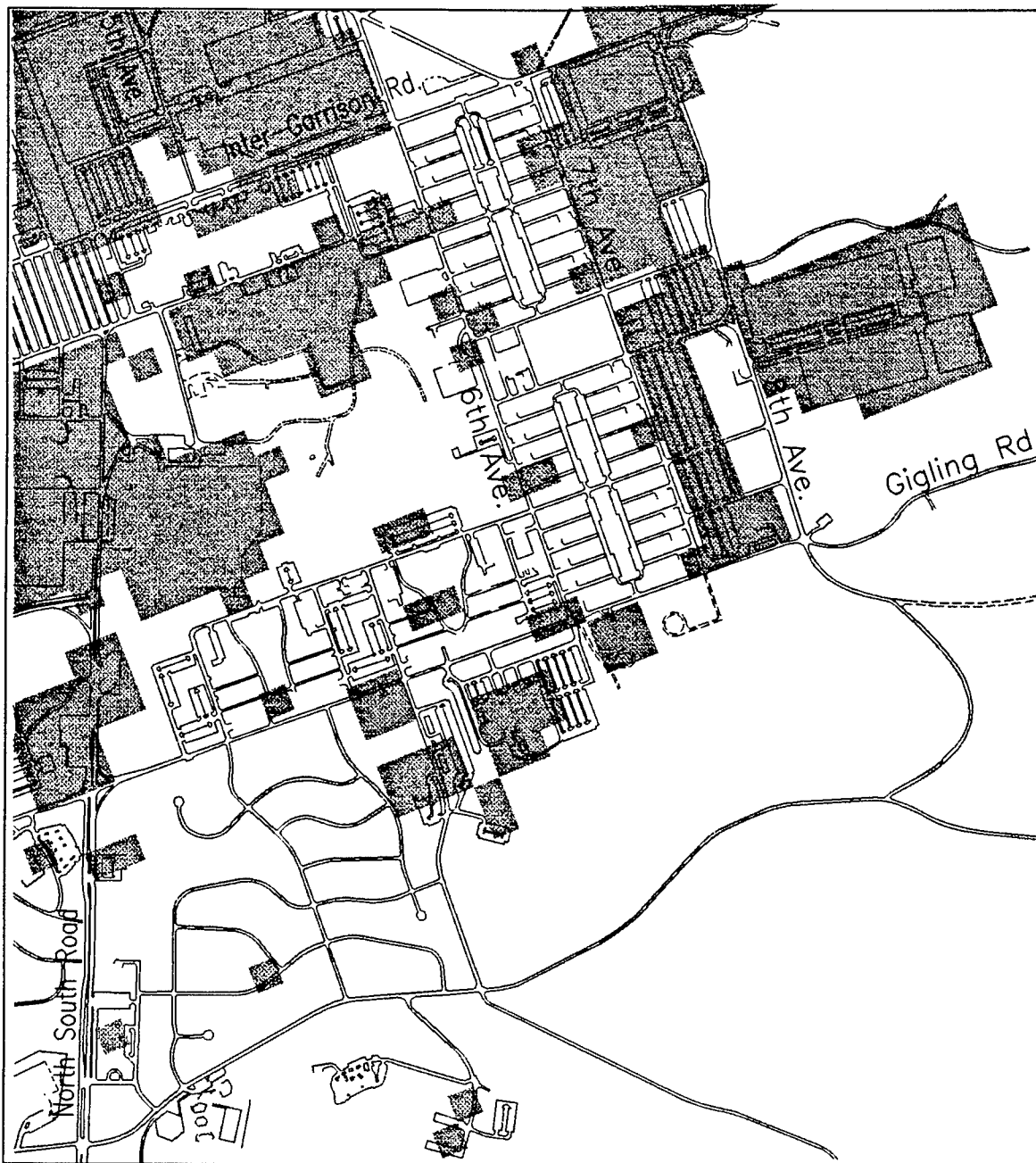


Locus Map
Section C

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3C



EXPLANATION

--- Installation Boundary

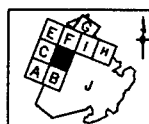
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

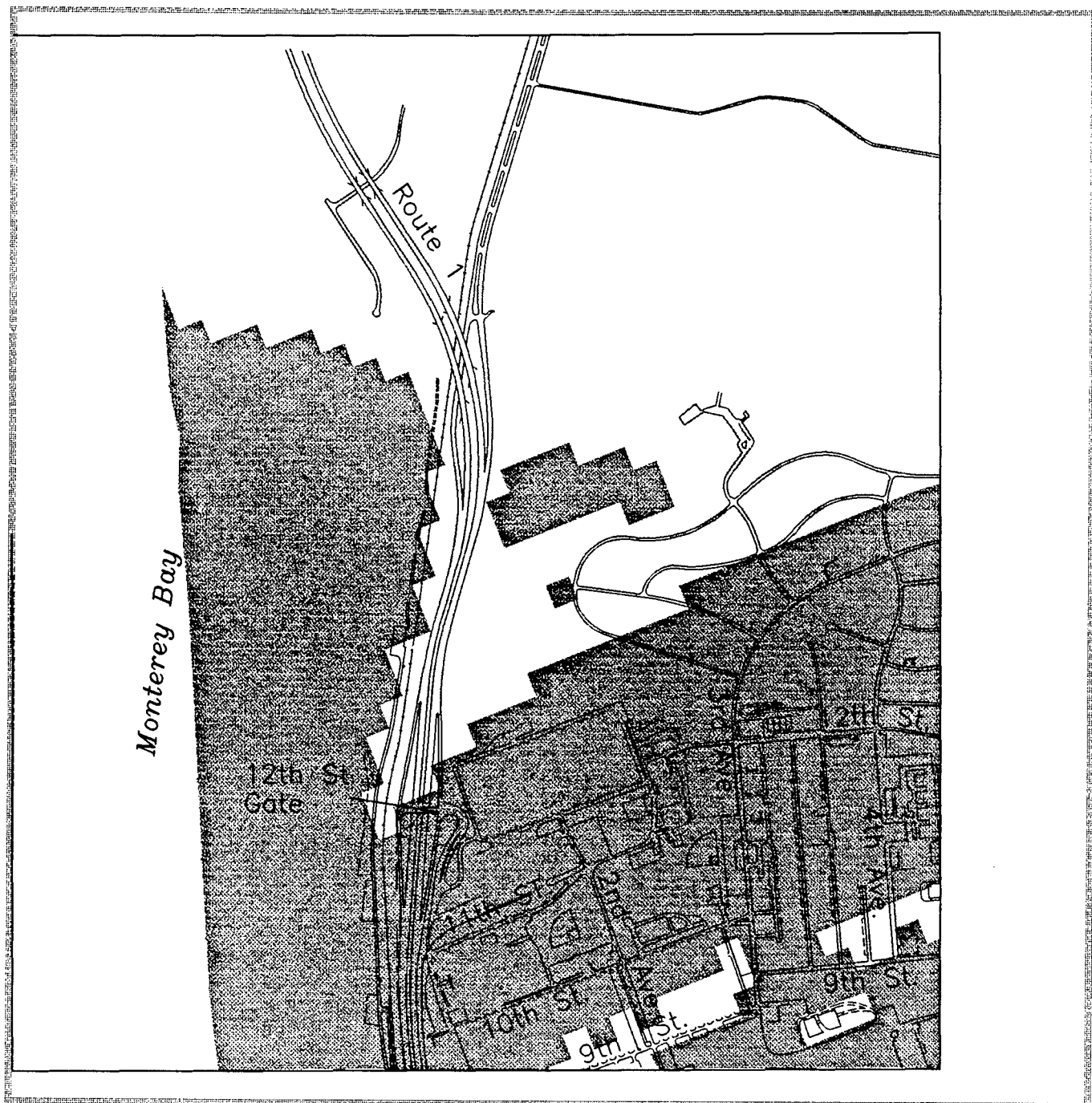


Locus Map
Section D

0 650 1300
FEET

Suitability of
Property for
Transfer


Figure 3-3D




EXPLANATION

--- Installation Boundary

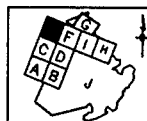
 CERFA Parcel and CERFA Parcel with Qualifier(s) *

 CERFA Disqualified Parcel **

 CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

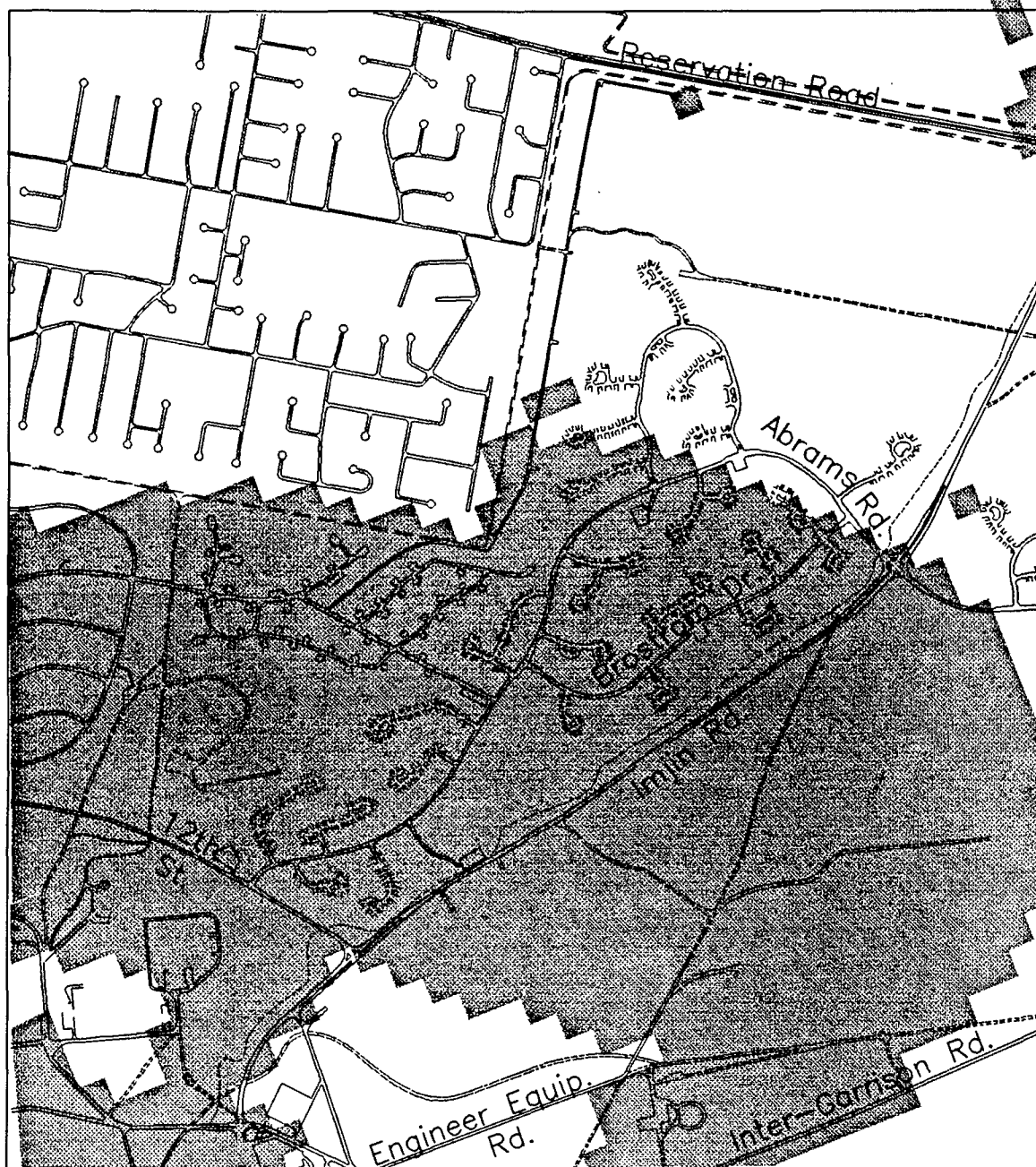


Locus Map
Section E

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3E



EXPLANATION

--- Installation Boundary

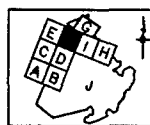
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 119 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

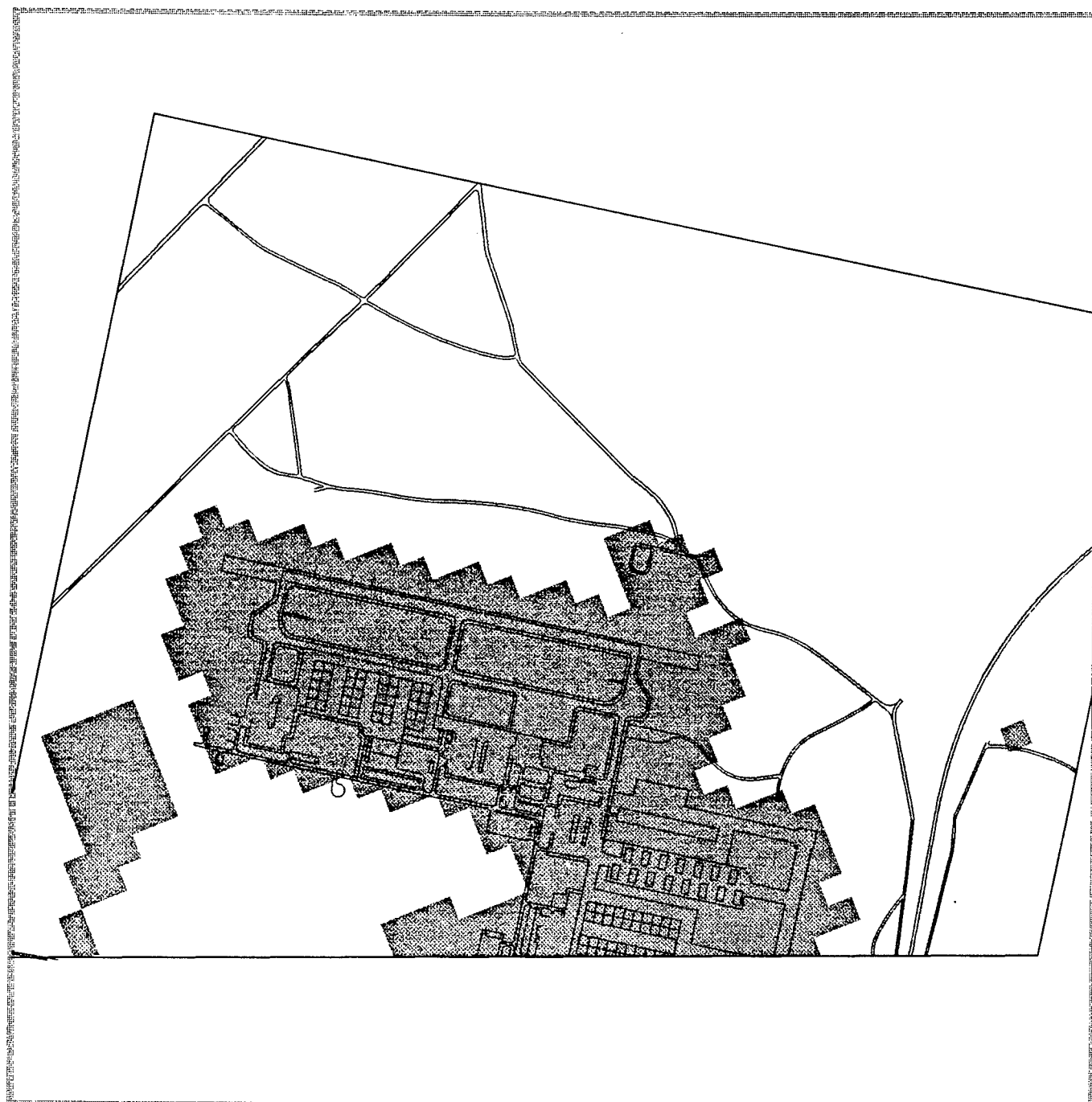


Locus Map
Section F

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3F



EXPLANATION

--- Installation Boundary

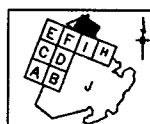
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

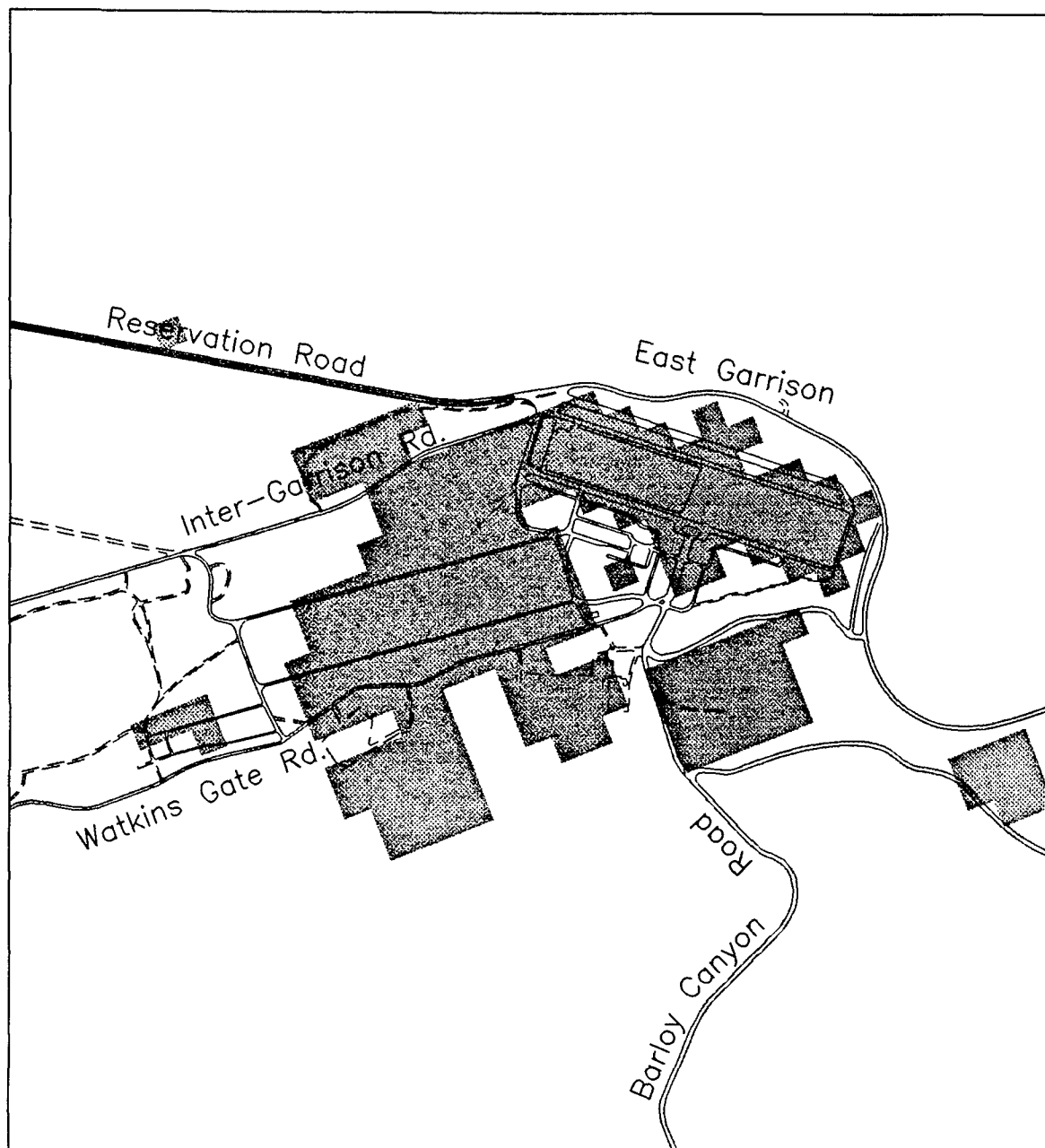


Locus Map
Section G

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3G



EXPLANATION

--- Installation Boundary

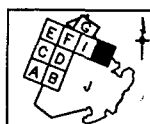
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

■ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

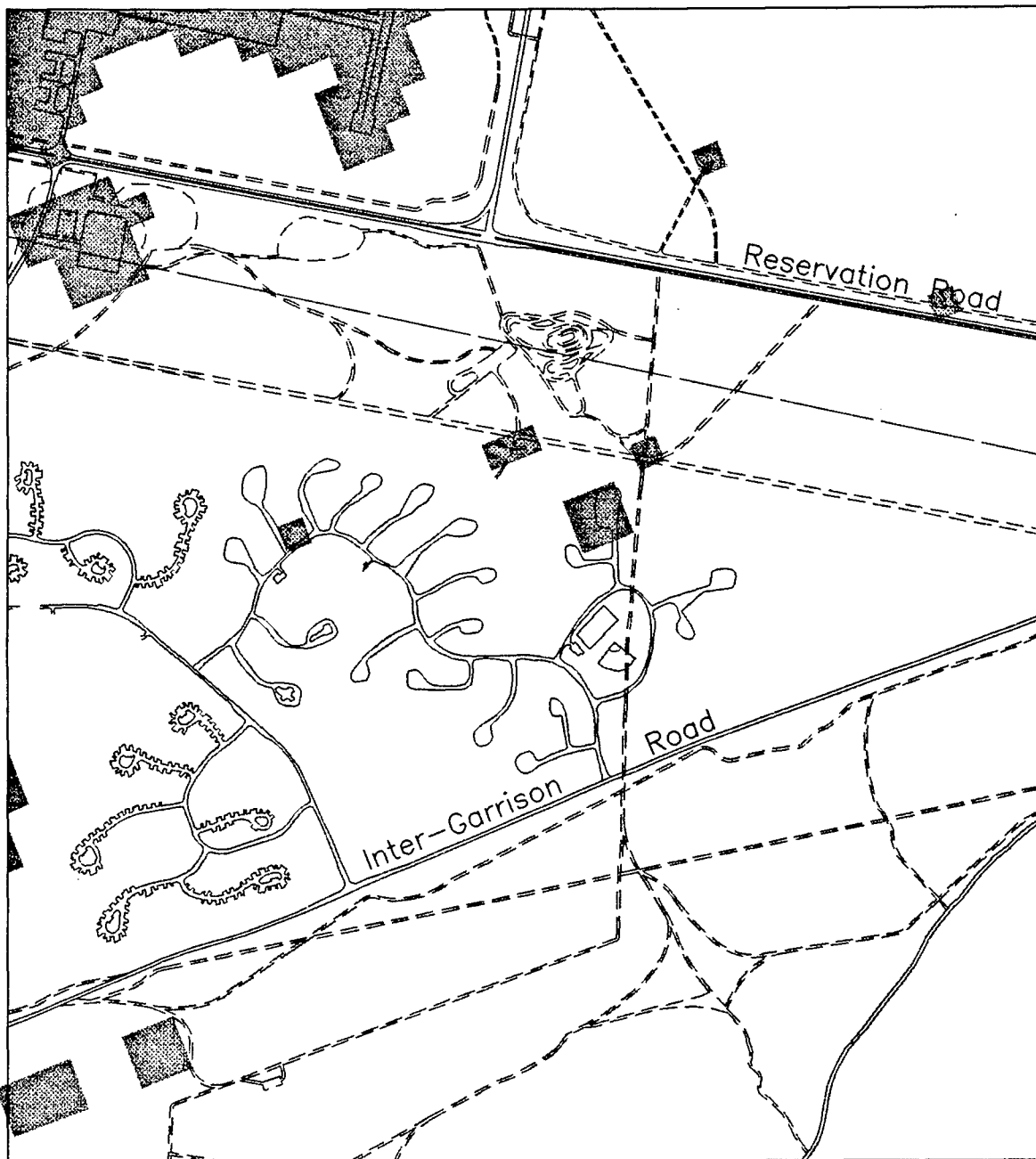


Locus Map
Section H

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-3H



EXPLANATION

--- Installation Boundary

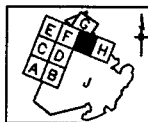
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.

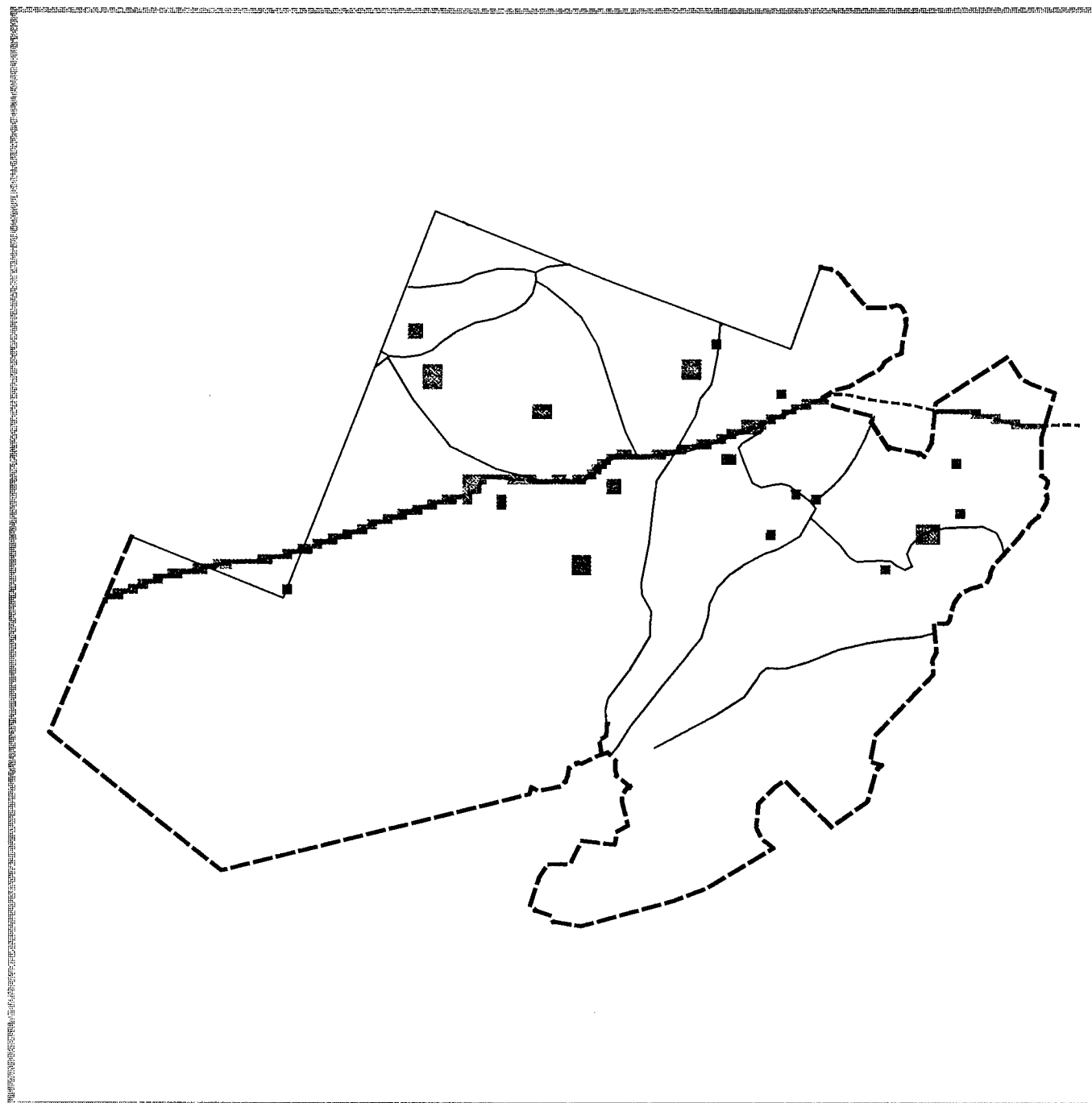


Locus Map
Section A

0 650 1300
FEET

Suitability of
Property for
Transfer

Figure 3-31



EXPLANATION

--- Installation Boundary

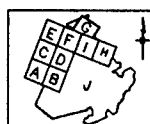
□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.



Locus Map
Section J

0 3250 6500
FEET

Suitability of
Property for
Transfer

Figure 3-3J

Region) signed the Federal Facilities Agreement. Under this agreement, the U.S. Army is the lead agency for the Superfund cleanup process.

- ▶ **Community Relations Plan (CRP).** A CRP was prepared and published in Draft Final form in September 1991. The purpose of the CRP was to establish procedures for disseminating accurate and timely information to the community about the Superfund process, developing ongoing two-way communication with the community, encouraging community involvement, and monitoring and responding to community concerns. The CRP was based on information gathered through interviews with elected officials, representatives of public agencies, and interested citizens to identify the most effective ways to communicate with the community. The CRP will be updated as necessary.

- ▶ **Information Repositories.** Two public information repositories have been established for documents pertaining to the cleanup process at Fort Ord. These information repositories are located at:

Fort Ord Post Library
Bldg 4275 North-South Road
Fort Ord, California 94941-5777
Telephone (408) 242-3421

Seaside Branch Library
550 Harcourt Avenue
Seaside, California 93955
Telephone (408) 899-2055

- ▶ **Administrative Record.** Administrative Records are being established for OU-1, OU-2, installation-wide, and IAFS in accordance with CERCLA requirements. Copies of the draft Administrative Record File indices are on file at Fort Ord.
- ▶ **Technical Review Committee (TRC).** The TRC at Fort Ord consists of members from the U.S. Army Corps of Engineers (Sacramento District), Fort Ord, USEPA, Cal EPA DTSC, Cal EPA RWQCB, Monterey Bay Unified Air Pollution Control District, California Coastal Commission, National Oceanic and Atmospheric Administration, California Department of Fish and Game, USFWS, Monterey County Health Department, Monterey Regional Water Pollution Control Agency, Monterey County Water Resources Agency, Monterey Peninsula Water Management District, and a community representative.
- ▶ **Restoration Advisory Board (RAB).** To encourage public involvement and to keep the public informed about Fort Ord's environmental restoration program, the TRC is being converted into the RAB. All members of the TRC automatically become RAB members. Additionally, several interested people from the community will be selected to become members of the RAB. The RAB is in the process of forming.

- ▶ **Mailing List.** A mailing list of all interested parties in the community is maintained by Fort Ord and is updated regularly.
- ▶ **Information Papers.** The following information papers describing various aspects of the Fort Ord environmental program have been distributed to people on the mailing list.
 - February 1993 - The UST Management Program at Fort Ord
 - February 1993 - The Groundwater at Fort Ord
 - March 1993 - Fort Ord's Hazardous Waste Management Program
 - May 1993 - Ordnance and Explosive Waste at Fort Ord
- ▶ **Brochures.** The following brochures about Fort Ord's environmental program were distributed at public meetings and at locations where the display boards (described below) were exhibited.
 - September 1991 - The U.S. Army's Environmental Cleanup at Fort Ord
 - July 1992 - A Fort Ord Success Story, The Fort Ord Soil Treatment System
- ▶ **Newsletters.** Newsletters were prepared quarterly and distributed to people on the mailing list.
- ▶ **Display Boards.** Three large display boards describing the environmental programs and strategies at Fort Ord have been constructed and are set up around the community and at public meetings on a regular basis.
- ▶ **Public Meetings.** Informational meetings on the status of the cleanup program at Fort Ord were held on:
 - June 14, 1991 (Media Tour)
 - June 21, 1991 (Media Tour)
 - July 12, 1991 (Media Tour)
 - September 16, 17, 18, and 19, 1991 (Public Meetings)
 - September 21, 1993 (Media Tour and Public Meeting).
- ▶ **Proposed Plan Hearings.** Public meetings on Proposed Plans for various OUs or installation-wide programs have been held as follows:
 - October, 1993 (OU 2 - Landfills)
 - November 30, 1993 (Interim Actions)

CHAPTER 4

► INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION ◀

This chapter describes and summarizes the installation-wide environmental restoration and compliance strategy for Fort Ord. Prior to the official closure date of October 1, 1997, IRP projects were underway to identify, characterize, and remediate environmental contamination at Fort Ord. With the closure announcement, the installation's strategy shifted from supporting an active U.S. Army mission to responding to disposal and reuse considerations.

The strategy for determining the most effective response mechanism for contaminant sources and contaminated areas during the early stages of the restoration process at the installation has been performed on a case-by-case basis by the BCT. The BCT has developed a comprehensive strategy to identify the appropriate regulatory programs applicable to the areas of contamination discovered during the restoration program.

4.1 Zone/OU Designation and Strategy

Zones define an installation's investigative strategy. Zones are geographically contiguous areas amenable to management as a single investigative unit. They are tools for organizing and defining areas of investigation. Zones can be used to group multiple sites and environmental data collected during one or more investigations into related geographic areas for detailed mapping, and facilitate the development of conceptual models of sources, migration pathways, and receptors. Zones are distinct from OU response actions.

OUs define an installation's remedial strategy. They are derived from an evaluation of hydrogeologic and chemical analytical data within an investigative zone, or by comparing data between zones. OU types may be based on geographic area, common media (soil, groundwater, surface water, other), common treatment technology, priorities, or schedules. Properly defined, OUs establish a logical sequence of discussions that address contamination releases in a comprehensive fashion.

4.1.1 Zone Designations

The draft final installation-wide RI/FS literature review (1991) divided the installation into 21 study zones. The zones were designated prior to beginning the literature review on the basis of land use, both past and present. In order to accelerate release of priority parcels for reuse, each site at Fort Ord is being evaluated independently based on reuse and environmental conditions using an approach termed the "Rolling RI". The "Rolling RI" approach establishes the potential source areas as site characterization activities progress independently from other sites. Individual sites can be released as the characterization and/or remediation is completed on a site-by-site basis. The "Rolling RI" process at Fort Ord has made the zone designation process obsolete.

Figures 3-1A through 3-1J show the IRP (NPL) site locations as well as the divisions of the study zones used in the draft final installation-wide RI/FS literature review. Table 4-1 depicts the relationship between IRP sites, OUs, and reuse parcels.

4.1.2 OU Designations

Two OUs were identified in the FFA: the FAAF Fire Drill Area (OU 1) and Fort Ord landfills (OU 2).

OU 1 - Fritzsche Army Airfield Fire Drill Area. The Fire Drill Area was established in 1962 as a training area for the Fort Ord Fire Department. The Fire Drill Area consisted of a burn pit, a drum unloading area, a gravity-feed storage tank, and underground piping connecting the storage tank to a discharge nozzle in the center of the burn pit. As part of the training activities, fuel was discharged from the storage tank into the pit, ignited, and extinguished. Training activities at the Fire Drill Area were discontinued in 1985, and the associated structures were removed.

OU 2 - Fort Ord Landfills. Two landfills, located in the north-central portion of Fort Ord, were used for 30 to 35 years for residential and commercial waste disposal. The north landfill was used from 1956 to 1966 and was closed to waste disposal when the main landfill began operating. The main landfill was operated from 1960 until 1987 and may have received a small amount of chemical waste along with household and commercial refuse. The main landfill facility stopped accepting waste for disposal in May 1987 because of the initiation of interim closure of the facility.

The relationship between IRP sites, OUs, and reuse parcels is depicted in Table 4-1. Installation OUs are shown in Figure 3-1G - 3-1F.

4.1.3 Sequence of OUs

A comprehensive strategy for sequencing OUs has not been developed for Fort Ord. However, the restoration sites and OUs have been given a reuse priority number as shown in Table 4-2. Once the strategy has been completed, Table 4-2 will be refined and will present a logical sequence of cleanup actions to address all past releases associated with the sites.

Figure 4-1 identifies the general timeline for the completion of cleanup actions at the restoration sites and OUs. The schedule was developed using a critical path analysis method with the following components:

- ▶ **Critical.** Critical jobs are those in which any extension in their duration will cause an equivalent delay in the project. Often referred to as the critical path. Normally the cumulative time span from the start of the first critical job to the end of the last critical job is the duration of the project.

TABLE 4-1. RELATIONSHIP BETWEEN SITES, OUS, AND PARCELS

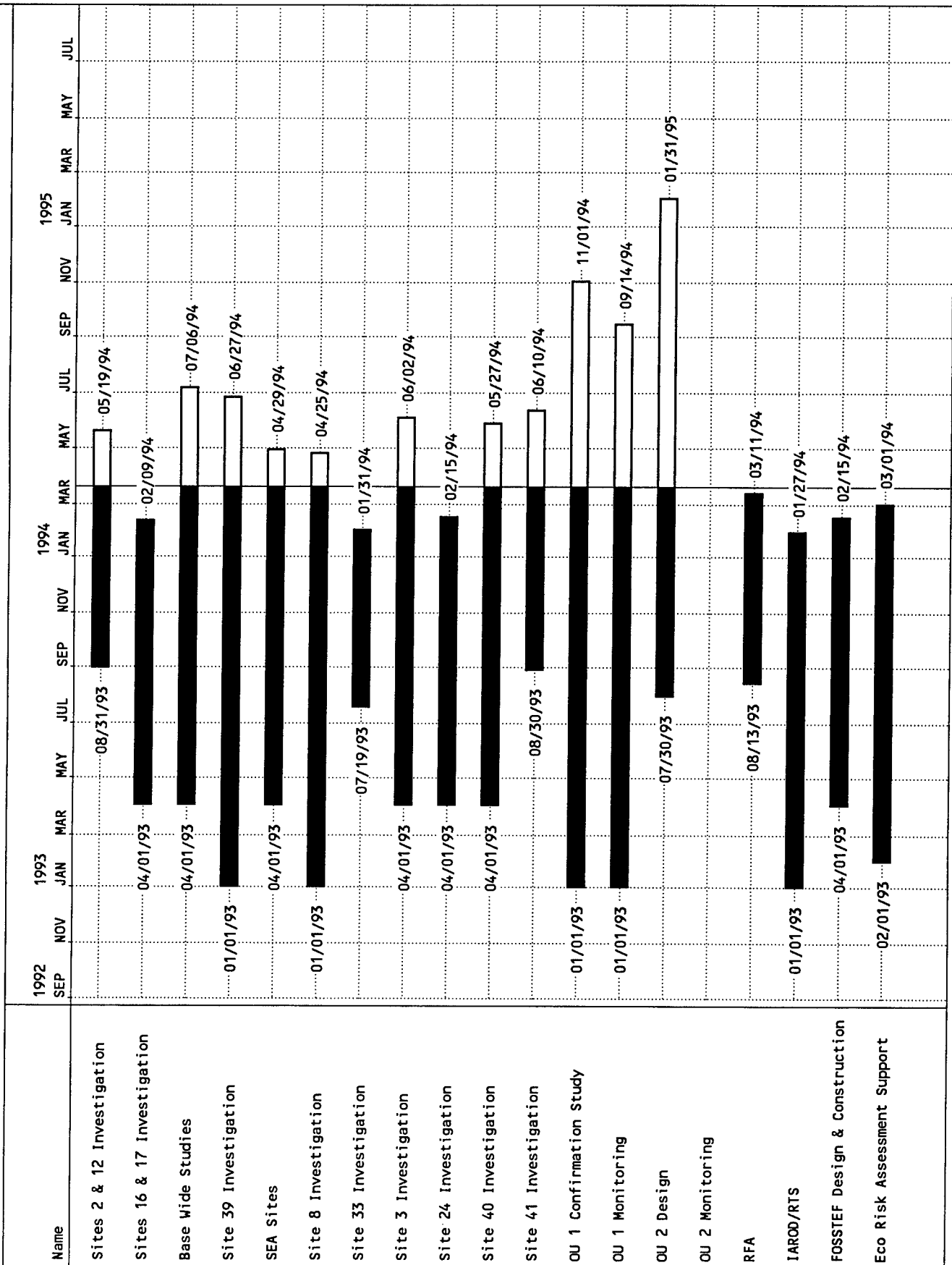
Reuse Parcel	Zone	Operable Unit	NPL Restoration Sites
12a		--	Site 1 - Ord Village Sewage Treatment Plant
13/2b		--	Site 2/12 - Lower Meadow, DOL Yard, Can Yard, MGSTP
12b		--	Site 3 - Beach Trainfire Ranges
12b		--	Site 4 - Beach Stormwater Outfalls
25		--	Site 5 - Range 36A (Site 39)
25		--	Site 6 - Range 39 (Car Dump; Site 39)
25		--	Site 7 - Range 40 and 41 (Fire Demo Area; Site 39)
25		--	Site 8 - Range 49 (MC Range; Site 39)
25		--	Site 9 - Range 39 (FFE Training Area; Site 39)
16		--	Site 10 - Burn Pit
20h		--	Site 11 - AAFES Fueling Station
2b		--	Site 13 - Railroad Right-of-Way
8b		--	Site 14 - 707th Maintenance Facility
2f		--	Site 15 - DEH Yard
16		--	Site 16/17 - DOL/Maintenance Yard, Pete's Pond, 1400 Blk MP
2e		--	Site 18 - 1600 Block Motor Pool
2b		--	Site 19 - 2200 Block Facility
16		--	Site 20 - South Parade Grounds 3800, 519 Motor Pools
16		--	Site 21 - 4400/4500 Motor Pool, East Block
16		--	Site 22 - 4400/4500 Motor Pool, West Block
16		--	Site 23 - 3700 Motor Pool
16		--	Site 24 - Old DEH Yard
2d		--	Site 25 - Former DRMO
2b		--	Site 26 - Sewage Pump Stations
9b		--	Site 27 - Army Reserve Motor Pool
2b		--	Site 28 - Barracks and Main Garrison Area
11b		--	Site 29 - DRMO
11b		--	Site 30 - Drive Training Area
11b		--	Site 31 - Former Dump Site
11b		--	Site 32 - East Garrison Sewage Treatment System
22		--	Site 33 - Golf Course
1a		--	Site 34 - FAAF Fueling Facility
7b		--	Site 35 - Aircraft Cannibalization Yard
16		--	Site 36 - FAAF Sewage Treatment Plant
20i		--	Site 37 - Trailer Park Maintenance Shop
16		--	Site 38 - AAFES Dry Cleaners
25		--	Site 39 - Impact Area
1a		--	Site 40 - FAAF Defueling Areas
11b		--	Site 41 - Crescent Bluff Fire Drill Areas
1a		OU 2	
8a		OU 1	

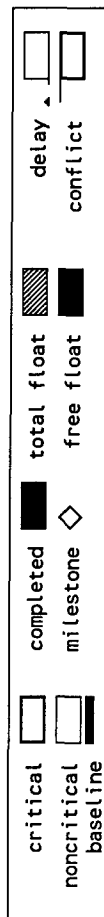
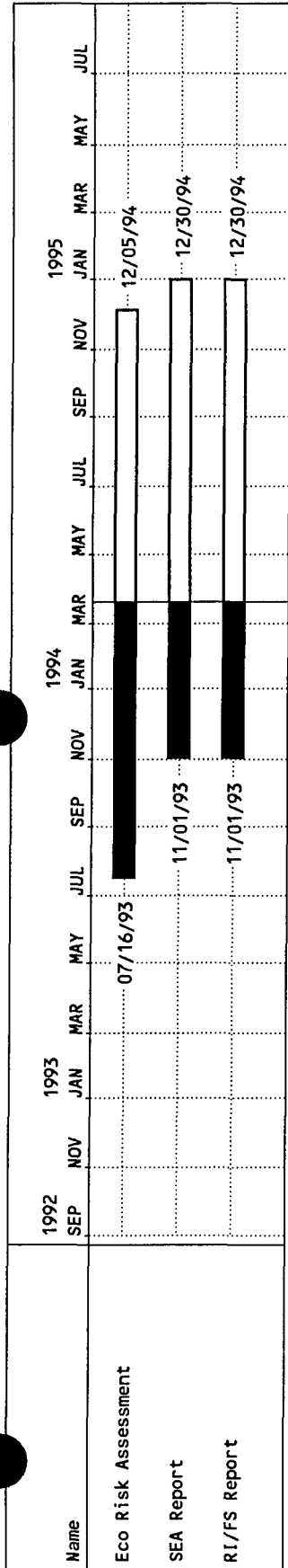
TABLE 4-2. CLEANUP SEQUENCE

Reuse Parcel	Site	Environmental Risk	Reuse Priority	Cleanup Sequence	Reconcile Comments
12a	Site 1 - Ord Village Sewage Treatment Plant	TBD	2	TBD	
13/2b	Site 2/12 - Lower Meadow, DOL Yard, Can Yard, MGSTP	TBD	1	TBD	
12b	Site 3 - Beach Trainfire Ranges	TBD	2	TBD	
12b	Site 4 - Beach Stormwater Outfalls	TBD	2	TBD	
25	Site 5 - Range 36A (Site 39)	TBD	2	TBD	
25	Site 6 - Range 39 (Car Dump; Site 39)	TBD	2	TBD	
25	Site 7 - Range 40 and 41 (Fire Demo Area; Site 39)	TBD	2	TBD	
25	Site 8 - Range 49 (MC Range; Site 39)	TBD	2	TBD	
25	Site 9 - Range 39 (FFE Training Area; Site 39)	TBD	2	TBD	
16	Site 10 - Burn Pit	TBD	2	TBD	
20h	Site 11 - AAFES Fueling Station	TBD	2	TBD	
2b	Site 13 - Railroad Right-of-Way	TBD	1	TBD	
8b	Site 14 - 707th Maintenance Facility	TBD	1	TBD	
2f	Site 15 - DEH Yard	TBD	1	TBD	
16	Site 16/17 - DOL/Maintenance Yard, Pete's Pond, 1400 Blk MP	TBD	1	TBD	
2e	Site 18 - 1600 Block Motor Pool	TBD	1	TBD	
2b	Site 19 - 2200 Block Facility	TBD	2	TBD	
16	Site 20 - South Parade Grounds 3800, 519 Motor Pools	TBD	1	TBD	
16	Site 21 - 4400/4500 Motor Pool, East Block	TBD	2	TBD	
16	Site 22 - 4400/4500 Motor Pool, West Block	TBD	1	TBD	
16	Site 23 - 3700 Motor Pool	TBD	1	TBD	
16	Site 24 - Old DEH Yard	TBD	1	TBD	
2d	Site 25 - Former DRMO	TBD	2	TBD	
2b	Site 26 - Sewage Pump Stations	TBD	2	TBD	
9b	Site 27 - Army Reserve Motor Pool	TBD	2	TBD	
2b	Site 28 - Barracks and Main Garrison Area	TBD	1	TBD	
11b	Site 29 - DRMO	TBD	1	TBD	
11b	Site 30 - Drive Training Area	TBD	1	TBD	
11b	Site 31 - Former Dump Site	TBD	1	TBD	
11b	Site 32 - East Garrison Sewage Treatment System	TBD	1	TBD	
22	Site 33 - Golf Course	TBD	1	TBD	
1a	Site 34 - FAAF Fueling Facility	TBD	1	TBD	
7b	Site 35 - Aircraft Cannibalization Yard	TBD	1	TBD	
16	Site 36 - FAAF Sewage Treatment Plant	TBD	1	TBD	
20i	Site 37 - Trailer Park Maintenance Shop	TBD	1	TBD	
16	Site 38 - AAFES Dry Cleaners	TBD	1	TBD	
25	Site 39 - Impact Area	TBD	1	TBD	
1a	Site 40 - FAAF Defueling Areas	TBD	1	TBD	
11b	Site 41 - Crescent Bluff Fire Drill Areas	TBD	1	TBD	

PROJECT: Fort Ord
 MANAGER: Joe Cochran
 CURRENT DATE: 03/25/94
 AS OF DATE: 03/25/94

Figure 4-1 Sequence and Primary Document Timeline for Operable Units





- ▶ **Noncritical.** Noncritical jobs are usually subtasks required to accomplish the critical job. The start and end dates may be varied within the project parameters. However, variations in the timeframe may result in an impact to the critical job of the project.
- ▶ **Baseline.** A set of "original" schedule dates that can be compared with the current schedule to determine if the project has slipped.
- ▶ **Completed Duration.** A measure in time periods of the portion of a job that is completed. A corresponding value will be displayed in the percent complete field and remaining duration field after the completed duration value has been entered.
- ▶ **Milestone.** A project event that represents a checkpoint, a major accomplishment, or a deliverable result. There is no time duration associated with a milestone.
- ▶ **Total Float.** The total length of time that a noncritical job can be delayed before it causes the project or a critical job to slip or causes a job to not meet its target date.
- ▶ **Free Float.** The length of time a noncritical job can be delayed without affecting another job.
- ▶ **Delay.** A waiting period that prevents the job from starting at its earliest possible start time. Delay times can either be input by the user or assigned by the program to resolve resource conflicts.
- ▶ **Conflict.** The amount of time a job overruns its target date. This is also called "negative float".

4.1.4 Environmental Restoration Early Actions Strategy

Eleven of the 41 NPL sites and one Operable Unit have been identified for early actions. As the NPL investigation program progresses, an additional number of the 41 sites may be identified for early actions. The two early action programs are summarized below.

- ▶ Excavation of limited soil contamination areas within 11 sites under an Interim Action ROD
- ▶ Interim groundwater remediation at Operable Unit 2.

The three early action programs are summarized below.

An Interim Action ROD has been prepared and signed by the signatories to the FFA to allow for early removal of contaminated soil at sites that meet specific criteria. The ROD does not identify every site at Fort Ord that may undergo early removal of limited soil contamination, but

rather it identifies the criteria and process that a site must follow to qualify for early removal. Sites that will qualify under the Interim Action ROD have the following characteristics:

- ▶ Contaminated soil consists of sand and/or silty sand of fine to medium grain size.
- ▶ Groundwater is relatively deep, typically more than 60 feet below the ground surface.
- ▶ Contaminated soil is of limited extent less than 500 cubic yards.
- ▶ Contaminated soil to be excavated is not more than 25 feet below the ground surface.
- ▶ Generally, the chemicals present in contaminated soil at these potential IA areas are the result of routine Fort Ord activities. Typically this soil is located near maintenance or service facilities, such as washracks, oil/water separators, drainage areas, or former storage tanks.
- ▶ Chemicals in contaminated soil that are likely to be the object of an IA are: petroleum hydrocarbons, solvents, oils, metals, and pesticides.

The NFA ROD, much like the Interim Action ROD described above, will identify the criteria and process that a site must undergo to qualify for no further action. Sites eligible for the no further action designation fall into one of the following descriptions:

- ▶ sites where no action is necessary to achieve protection of human health and the environment (such as a site where chemical are present but below preliminary remediation goals); and
- ▶ sites where there is no CERCLA authority to take action (such as sites involving virgin petroleum products).

A final ROD has recently been prepared and signed by the signatories to the FFA for OU 2. The ROD includes interim groundwater remediation involving both aquifers beneath OU 2. The interim remediation will consist of implementing a limited groundwater pump and treatment system.

Table 4-3 summarizes the environmental restoration planned early actions at Fort Ord.

TABLE 4-3. ENVIRONMENTAL RESTORATION PLANNED EARLY ACTIONS

OU/Site No.	Action	Objective	Time Frame
OU 2	Groundwater remediation	Contaminant containment	TBD
Site 6	Soil excavation	Remediation	2/94 to 6/94
Site 8	Soil excavation	Remediation	2/94 to 6/94
Site 10	Soil excavation	Remediation	2/94 to 6/94
Site 14	Soil excavation	Remediation	2/94 to 6/94
Site 15	Soil excavation	Remediation	2/94 to 6/94
Site 20	Soil excavation	Remediation	2/94 to 6/94
Site 21	Soil excavation	Remediation	2/94 to 6/94
Site 22	Soil excavation	Remediation	2/94 to 6/94
Site 23	Soil excavation	Remediation	2/94 to 6/94
Site 30	Soil excavation	Remediation	2/94 to 6/94
Site 34	Soil excavation	Remediation	2/94 to 6/94

4.1.5 Remedy Selection Approach

Remedies will be selected in accordance with statutory and National Oil and Hazardous Substances Pollution Contingency Plan (NCP) criteria. The Fort Ord BCT will involve all parties who have an impact on the remedies selected at the installation in the remedy selection process. Particular attention will be given to the following during the evaluation of remedial alternatives:

- ▶ **Applicable or Relevant and Appropriate Requirements (ARARs).** Applicable requirements for anticipated remedial actions will be identified by the Project Team. The effectiveness of remedial alternatives in reducing concentrations of contaminants to chemical-specific ARARs will be evaluated. Waivers will be considered where treatment to standards is technically impractical.
- ▶ **Land Use/Risk Assessment.** Human health and ecological risk assessment protocols will incorporate future land use in exposure scenarios.
- ▶ **Applicable Remedial Remedies.** Presumptive remedies will be considered in selected cases. Focused FSs will be developed where appropriate.
- ▶ **Remedial Technologies Screening.** A Remedial Technologies Screening will be conducted to select appropriate remedial technologies.
- ▶ **Petroleum Exclusion Remedies.** Source-specific actions for petroleum, oil, and lubricants excluded from CERCLA will be addressed by the State of California Environmental Protection Agency, Central Coast Regional Water Quality Control Board and the Monterey County Health Department.

- ▶ **Future Land Use.** Cleanup goals and future land use will be considered in the development and selection of remedial alternatives.

The BEC will hold Project Team meetings to discuss conceptual remedies early in the FS process (initial screening of alternatives stage) to ensure the FS focuses on the appropriate types of remedies for each site or OU.

4.2 Compliance Strategy

This section describes the strategies for addressing compliance-related environmental issues at Fort Ord prior to installation closure and/or property transfer. These environmental compliance strategies have been developed to ensure that installations are compliant with federal and state regulatory programs, DoD, and U.S. Army directives and regulations throughout the BRAC process.

4.2.1 Storage Tanks

Underground storage tank management program activities will continue at numerous sites. These activities include tank closures and removals, initial site characterizations, remedial design and remedial actions. With the exception of contaminated waste oil tanks, all USTs, including those located within NPL sites will be removed and/or remediated under the UST Management Program. Planned activities include:

- ▶ Removal of all remaining USTs beginning with those located in priority parcels. A total of 133 have been removed and 119 remain in place.
- ▶ Characterization studies will be conducted at sites where contamination is found. Site characterizations are currently underway at 19 of the 20 contaminated UST sites.
- ▶ Remediation will be completed at all 20 sites where contamination was found.
- ▶ Obtain closure from Monterey County Health Department for UST sites after removal and/or remediation.

USTs which operate water wells, sewage lifts or emergency facilities or which are in areas to be retained by Fort Ord will be replaced with double-walled tanks or aboveground tanks.

4.2.2 Hazardous Materials/Waste Management

The Fort Ord Hazardous Waste Management Plan will be updated to reflect changes in command and changes in operation resulting from installation closure.

4.2.3 Solid Waste Management

Solid waste will continue to be transported to a local landfill located off-post for disposal. A ROD for the existing landfill is scheduled for June 1994.

4.2.4 Polychlorinated Biphenyls

All transformers with greater than 50 ppm PCBs have been replaced with non-PCB transformers. There is no installation-wide program to replace transformers with PCB levels less than the Toxic Substance Control Act level of 50 ppm. These are replaced on an as-needed basis.

In accordance with an U.S. Army memorandum dated August 25, 1982, all PCB transformers and PCB-filled electromagnets at Fort Ord are inspected on a weekly, quarterly, and annual basis as required by USEPA Rule on PCBs 40 CFR Parts 761, 761.120 and 268 and any other applicable environmental statutes. These inspections will continue as long as the U.S. Army maintains ownership of the property.

4.2.5 Asbestos

The purpose of the asbestos management program at Fort Ord is to identify ACM in U.S. Army-controlled buildings, evaluate the ACM's friability, condition, and potential for damage, and implement response actions appropriate to the findings. Fort Ord will continue this management program as long as the U.S. Army maintains ownership of the property.

4.2.6 Radon

The purpose of the radon reduction program at Fort Ord is to assess indoor levels of radon and mitigate elevated levels of radon. Radon testing using ASTM procedures was originally performed in the 1989-1990 fiscal year. Those surveys included approximately 2,900 housing and office buildings installation-wide. U.S. Army policy dictates that buildings with radon levels above 4 pCi/l be retested for 12 months. Those buildings with levels above 8 pCi/l must undergo complete remediation within 1 to 4 years.

4.2.7 RCRA Facility (SWMUs)

A study was conducted by USAEHA to assist Fort Ord in complying with state and federal regulations and to identify units which may require environmental sampling and/or remedial action. The report recommended the following actions to aid in compliance:

- ▶ Inclusion of the USAEHA report with the RCRA Part B permit renewal application for review by the state and USEPA Region IX;
- ▶ Coordination with state and USEPA Region IX for visual site inspections of the identified sites;

- ▶ Complete environmental sampling at seven SWMUs: FTOs -001, -002, -010, -014, -025, -026, and -041;
- ▶ Complete closure process for abandoned landfills in accordance with state and federal regulations; and
- ▶ Consolidate all hazardous waste at numerous motor pools in temporary storage areas.

Other planned activities include:

- ▶ Investigation of selected SWMUs under the NPL Program;
- ▶ Removal of hazardous materials as motor pools and other SWMUs are closed; and
- ▶ Preparation of an "RFA Type Report" to obtain closure of SWMUs which have not been investigated under the NPL Program.

4.2.8 NPDES Permits

NPDES compliance activities include negotiation of the Pollution Prevention Plan and implementation of a monitoring program. The U.S. Army will comply with the plan and implement a monitoring program as long as the property is owned by the U.S. Army.

4.2.9 Oil/Water Separators

Oil/water separators at Fort Ord will continue to be managed by the U.S. Army in accordance with all applicable state and federal regulations as long as the U.S. Army maintains ownership.

4.2.10 NRC Licensing

There are licensed radiation sources at Fort Ord. Decommissioning activities will be conducted in accordance with NRC guidelines.

4.2.11 Pollution Prevention

Pollution prevention at Fort Ord will continue to be managed through the Pollution Prevention Plan and through DRMO operations as long as the U.S. Army maintains ownership of the property.

4.2.12 Mixed Waste

There is no mixed waste generated at Fort Ord; therefore, there are no compliance requirements or strategies under this program for the installation.

4.2.13 Radiation

The radiological survey program currently being performed at Fort Ord has outlined in a memorandum dated September 20, 1993 the following conclusions:

- ▶ Closeout radiological surveys will be required at Fort Ord due to NRC and state interest;
- ▶ The survey procedures will follow the requirements set forth in NRC Regulatory Guide CR 5489;
- ▶ USAEHA was retained by USACE to serve as one of its radiological installation closure consultants;
- ▶ The schedule for conducting radiological surveys must consider the need to initiate transferring certain parcels in April 1994; and
- ▶ If any contamination is found, remediation will be required. Minor remediation/decontamination will be performed by the survey teams. Major remediation/decontamination will be handled through the U.S. Army Material Command, Low-Level Radioactive Waste Office.

4.2.14 NEPA

The NEPA EIS for disposal and reuse of Fort Ord has been completed. No further EIS work is planned.

4.2.15 Lead-Based Paint

The purpose of the lead-based paint management program at Fort Ord is to identify and control lead-based paint and lead-contaminated dust in target facilities. The lead-based paint management program at Fort Ord will continue. It will be performed in accordance with the applicable U.S. Army guidelines and federal regulations by the U.S. Army as long as the properties are owned by the U.S. Army.

4.2.16 Medical Waste

Infectious medical waste generated at Fort Ord will continue to be separated out and taken to the autoclave (Building 1422) for steam sterilization, placed in double-lined bags, and disposed in an off-post sanitary landfill. Pathological waste will continue to be incinerated in Hays Hospital. A silver recovery system will continue to be used for treatment of photographic wastes. The U.S. Army will manage medical waste in accordance with applicable regulations as long as the U.S. Army maintains ownership of the buildings.

4.2.17 Unexploded Ordnance

An archive search conducted as part of the UXO program at Fort Ord has been completed, and the results are presented in the Archive Search Report. The Archive Search Report identifies the types of ordnance used at Fort Ord and describes areas both inside and outside of the Inland Ranges where ordnance was used. A Phase I work plan was prepared at the direction of USADEH that describes the proposed sampling program for areas near high-priority reuse parcels. This work plan will be updated in early February 1994 to include all areas identified in the Archive Search Report. The sampling program began in the first week of January 1994. Sites at which UXO is found and that USADEH considers to be contaminated will require the preparation of a Land Disposal Site Plan. An Land Disposal Site Plan detailing the remediation of UXO identified during sampling is scheduled for preparation in February 1994. Remediation is expected to begin in early March 1994.

4.2.18 Other Compliance Programs

Significant air emissions from chemical sources at Fort Ord have been drastically reduced and will be eliminated by closure. Analytical results from the high-volume ambient air monitoring at the beach trainfire ranges will be available in Spring 1994.

4.3 Natural and Cultural Resources Strategy(ies)

This section discusses the strategies for natural and cultural resource programs at Fort Ord developed to manage these resources throughout the BRAC cleanup and installation closure process. Natural resources will continue to be managed in accordance with the natural resources management plan as long as the U.S. Army maintains property ownership.

4.3.1 Vegetation

Vegetative surveys have been conducted at Fort Ord. Impacts to flora were assessed as part of the NEPA EIS. Fort Ord will continue to maintain their grounds maintenance program and upkeep the existing vegetation until closure.

4.3.2 Wildlife

Wildlife at Fort Ord has been described in previous reports. Impacts to fauna were assessed in the EIS for disposal. There are no plans to conduct any additional wildlife surveys.

4.3.3 Wetlands

Wetlands on and near Fort Ord have been described. Impacts to wetlands were assessed in the EIS for disposal. There are no plans to conduct any additional wetlands surveys.

4.3.4 Designated Preservation Areas

A HMP has been developed for Fort Ord. The U.S. Army will comply with the HMP as long as the U.S. Army maintains property ownership. The HMP mitigations for UXO Removal are currently being developed and will be implemented prior to the remediation of UXO at all sites not planned for development. Mitigations for other installation closure projects will be developed and implemented prior to any ground intrusive work beginning.

4.3.5 Rare, Threatened, and Endangered Species

The U.S. ARmy will continue to comply with the recommendations of the Biological Assessment in order to minimize closure impacts to threatened and endangered species.

4.3.6 Cultural Resources Strategy

The U.S. Army is in the process of developing a Memorandum of Agreement for cultural resources. Once finalized, the U.S. Army will comply with the conditions set forth in the memorandum as long as the U.S. Army maintains ownership.

4.3.7 Other Resources

No additional resources have been identified; thus no strategy is planned.

4.4 Community Involvement/Strategy

A Community Relations Plan, dated September 1992, has been implemented to facilitate communications between Fort Ord, the USACE Sacramento District, regulatory agencies, and members of the community concerning the environmental program at Fort Ord. This communication ensures that all parties involved or interested are provided accurate, consistent information in a timely manner concerning related cleanup activities, and possible effects of any contamination. It provides mechanisms for all parties to provide input into the decision-making process of the cleanup program.

Fort Ord has adopted the following strategy to support a proactive community relations program in accordance with CERCLA requirements:

- ▶ Update the existing CRP whenever significant changes occur during the cleanup effort;
- ▶ Develop Proposed Plans and issue proposed plan fact sheet. Issue public notice two weeks in advance of public comment periods on these plans in local newspapers;
- ▶ Hold 30-day public comment periods on proposed plans, and respond to all comments in a responsiveness summary;

- ▶ Hold informal and formal public meetings as required during the process;
- ▶ Provide an opportunity for public comment on removal actions and maintain information repositories on- and off-post; and
- ▶ Maintain Administrative Records. Publish information papers and newsletters on the progress of environmental restoration and disposal programs.

CHAPTER 5

► ENVIRONMENTAL PROGRAM MASTER SCHEDULES ◀

This chapter presents the Fort Ord Master Schedules of anticipated activities in the installation's environmental programs. These schedules are simplified from detailed network and operational schedules developed to support OU-specific work plans. Closure-related compliance agreements. Environmental restoration activities are graphically summarized in Figure 5-1. Since Fort Ord no longer has an active mission, mission/operational-related compliance activities (Figure 5-2) are not presented and compliance activities are summarized in Figure 5-3. Natural and cultural resource activities information will be provided in Figure 5-4 in the future. Each of these schedules displays the critical path analysis for the respective installation program. Components in each analysis include critical and noncritical paths, baseline, completed duration, milestones, float, delay and conflict. These components are defined in Section 4.1.3.

5.1 Environmental Restoration Program

This section presents response schedules and outlines fiscal year requirements for Fort Ord's environmental restoration program.

5.1.1 *Response Schedules*

On 19 November 1990, the U.S. Army signed a FFA with the USEPA and the State of California. The FFA outlined schedules for RI/FS, ROD, and Remedial Design/Remedial Action (RD/RA). The FFA contained timetables for OU 1 (FAAF), OU 2 (Fort Ord Landfills), and the installation-wide RI/FS, ROD, and RD/RA.

5.1.2 *Requirements by Fiscal Year*

Fiscal information is under development for the environmental restoration program.

5.2 Compliance Programs

This section presents master compliance schedules and outlines fiscal year requirements for Fort Ord's environmental compliance programs.

5.2.1 *Master Compliance Schedules*

Because the installation is closed, no mission-related compliance schedules are included. BRAC-related compliance schedules are provided as Figure 5-3.

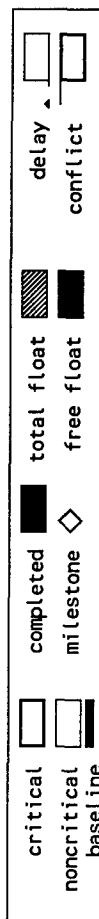
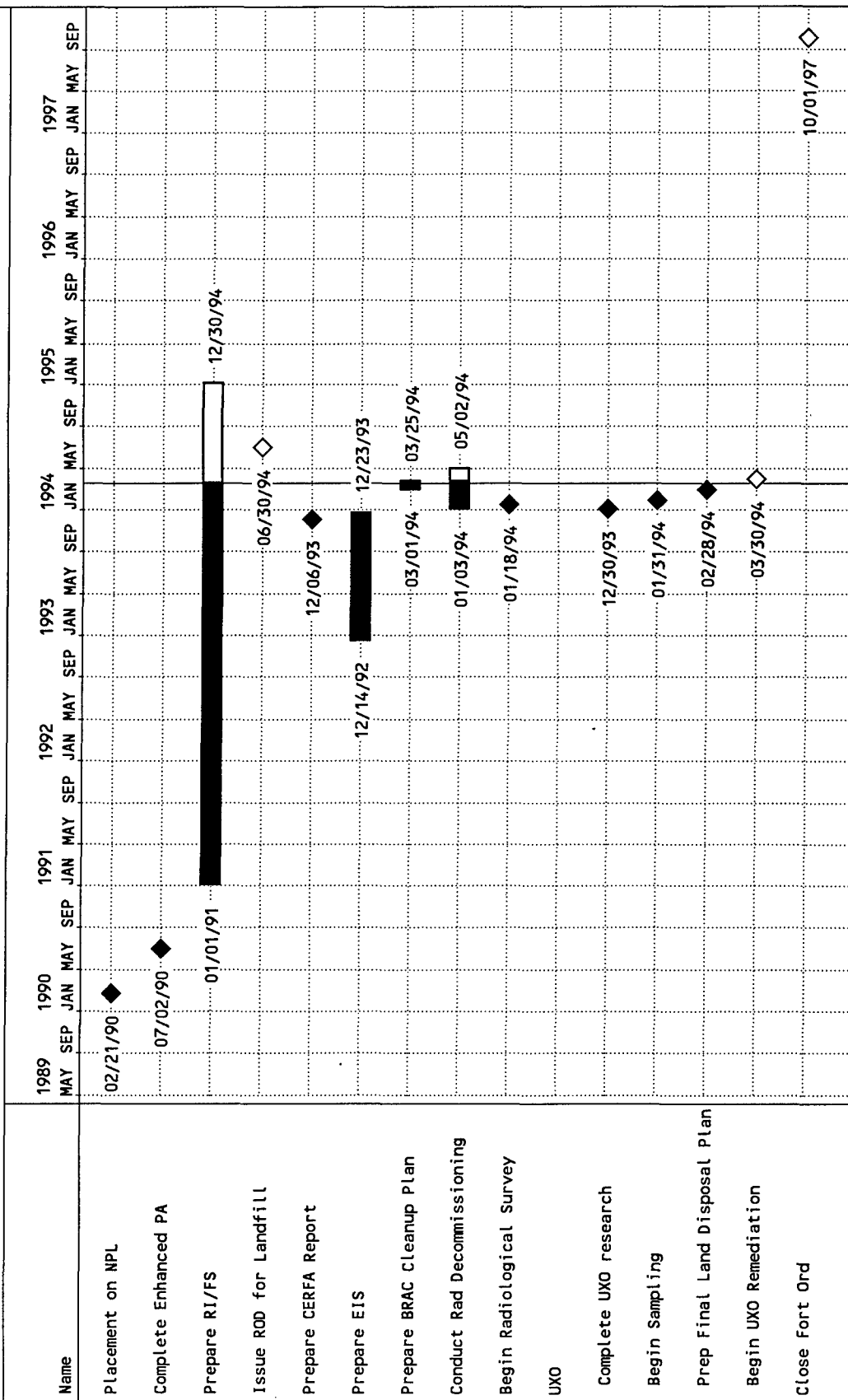
PROJECT: Fort Ord

MANAGER: Joe Cochran

CURRENT DATE: 03/25/94

AS OF DATE: 03/25/94

5-1 Projected Master Restoration Schedule



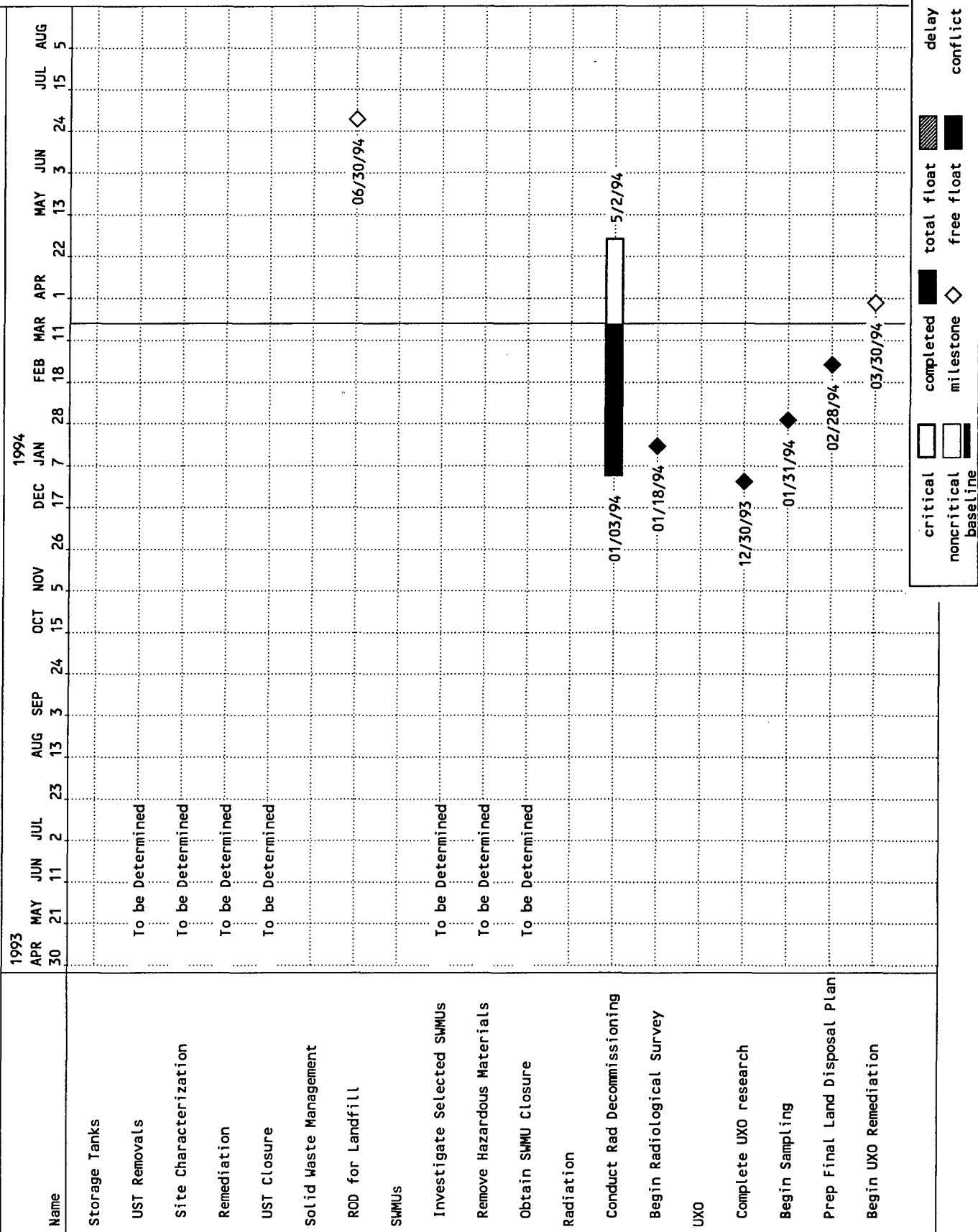
**Fort Ord no longer has an active mission.
Future changes to be reflected here**

**Projected Master
Schedule for Mission/
Operational-Related
Compliance Programs**

Figure 5-2

PROJECT: Fort Ord
 MANAGER: Joe Cochran
 CURRENT DATE: 03/25/94
 AS OF DATE: 03/25/94

5-3 Projected Master Schedule for Closure-Related Compliance Programs



**Natural and Cultural Resource
Activities information to be
provided by Fort Ord in April, 1994.
Future changes will be reflected here.**

**Projected Master
Schedule for Natural
and Cultural Resources
Activities**

Figure 5-4

5.2.2 *Requirements by Fiscal Year*

Fiscal information is under development for the compliance programs.

5.3 Natural and Cultural Resources

This section presents master natural and cultural resources activity schedules and outlines fiscal year requirements for Fort Ord's natural and cultural resource programs.

5.3.1 *Natural and Cultural Resources Schedule(s)*

No schedules are available for natural and cultural resource preservation/restoration programs. Figure 5-4 will be provided if future schedules are identified.

5.3.2 *Requirements by Fiscal Year*

No fiscal information has been developed for natural and cultural resource preservation/restoration programs.

5.4 Meeting Schedule

Meetings are scheduled with the regulatory agencies or the BCT in accordance with the FFA and are typically held as follows:

- ▶ Remedial Project Managers Meetings - Monthly
- ▶ Restoration Advisory Board/Technical Review Committee Meetings - Quarterly
- ▶ Technical Meetings - as needed.

CHAPTER 6

► TECHNICAL AND OTHER ISSUES TO BE RESOLVED ◀

This chapter summarizes technical and other issues that are yet to be resolved. These issues include information management; the usability of historic data; data gaps; natural (background) levels of chemical constituents in soil, groundwater, surface water, and sediments; risk assessment; state cleanup standards; and program initiatives to complete cleanup requirements as required to meet property transfer schedules.

6.1 Data Usability

This section identifies issues that need to be resolved with regard to managing information gathered and used in the environmental restoration and compliance programs at Fort Ord.

6.1.1 *BCT Action Items*

There are currently no unresolved issues related to data usability.

6.1.2 *Rationale*

Data are collected in accordance with the Fort Ord Quality Assurance Project Plan. Chemical data are validated in accordance with USEPA Functional Guidelines and the Quality Assurance Project Plan.

6.1.3 *Status/Strategy*

Procedures have been established and approved by the regulatory agencies to complete the validation of data collected during the completion of the Fort Ord RI/FS.

6.2 Information Management

This section summarizes issues that need to be resolved with regard to the validity of using historical data sets in the installation environmental restoration program.

6.2.1 *BCT Action Items*

Currently there are no unresolved issues related to information management at Fort Ord.

6.2.2 Rationale

Historical analytical data can contribute to the completion of site characterization and risk assessments by filling data gaps. Current and future data from each data collection system (e.g., field laboratories, field screening techniques) are critical to the completion of all site characterization efforts, comprehensive conceptual model development, risk assessments, and ultimately the selection of remedial actions to protect human health and the environment.

6.2.3 Status/Strategy

Data are processed and managed in accordance with the Fort Ord Data Management Plan. Procedures have been established and approved by the regulatory agencies to complete the management of data collected during the completion of the Fort Ord RI/FS.

6.3 Data Gaps

This section summarizes issues that need to be resolved with regard to data gaps identified during the environmental restoration program.

6.3.1 BCT Action Items

Data gaps will be identified during the completion of site characterization and remedial investigation activities. This will require the development and approval of work plans to fill these data gaps.

6.3.2 Rationale

Site characterizations and remedial investigations will not be deemed complete by the regulatory agencies until the lateral and vertical extent of contamination has been adequately defined.

6.3.3 Status/Strategy

Continue to update the BCT during monthly remedial project managers meetings and other technical presentations. Data summary reports will be submitted after each phase of sample collection and data evaluation with recommendations for the next phase of sampling, if necessary. Additional phases of sample collection will need to be contracted expeditiously to allow project schedules to be met.

6.4 Background Levels

This section summarizes issues that need to be resolved with regard to establishing background levels at Fort Ord.

6.4.1 BCT Action Items

Currently there are no unresolved issues related to background levels in soil and groundwater at Fort Ord.

6.4.2 Rationale

Because there are no BCT action items that apply to obtaining background levels at Fort Ord, a rationale is not necessary.

6.4.3 Status/Strategy

Background levels for inorganic chemicals have been developed for soils. Background levels for anthropogenic background chemicals such as pesticides and petroleum hydrocarbons in soil may be required at a later date. The BCT has chosen to identify background levels for anthropogenic-related chemicals on a site-by-site basis rather than on an installation-wide basis. Procedures and agreements with the regulatory agencies have been developed such that no further action is required to define background levels at this time.

6.5 Risk Assessments

This section summarizes unresolved issues pertaining to the completion of risk assessments required to complete the Fort Ord environmental restoration and compliance programs.

6.5.1 BCT Action Items

Unresolved issues related to risk assessments include the following:

- ▶ BCT approval of Ecological Risk Assessment Work Plan
- ▶ Integration of human health and ecological-based cleanup standards
- ▶ Integration of site- or OU-based risk assessments with installation-wide human health and ecological risk assessments
- ▶ Reuse of certain areas of Fort Ord is highly uncertain. Consequently, residential risk scenarios may be required for areas where future use is uncertain.

6.5.2 Rationale

Human health and ecological risk assessments will dictate cleanup standards for Fort Ord.

6.5.3 Status/Strategy

Installation-wide human health and ecological risk assessments will be presented in the Draft RI/FS to be completed in August 1994. Risk assessment strategies and assumptions have been

discussed with the regulatory agencies and will be finalized prior to the submittal of the Draft RI/FS report. Table 6-1 presents a summary of future land use risk assessment for the development of remedy selections.

6.6 Installation-wide Remedial Action Strategy

This section summarizes unresolved issues pertaining to the completion of remedial actions required for the Fort Ord environmental restoration and compliance programs.

6.6.1 BCT Action Items

The following action items have been identified for the BCT:

- ▶ Complete installation-wide RI/FS
- ▶ Prepare Proposed Plan
- ▶ Prepare installation-wide ROD
- ▶ Complete design and contract for remediation

6.6.2 Rationale

An installation-wide ROD, subsequent remediation, and agency approvals are required prior to removal of Fort Ord from the NPL list.

6.6.3 Status/Strategy

All previously identified areas that require remedial action are in the proposed plan/ROD, design, or implementation phase of remediation.

6.7 Interim Monitoring of Groundwater and Surface Water

This section summarizes unresolved issues pertaining to interim monitoring of groundwater and surface water. Drinking water supplies for Fort Ord are derived from production wells on the installation. Surface water monitoring has taken place to assess ecological risks; however, the results have not been evaluated to determine if further monitoring is needed.

6.7.1 BCT Action Items

The BCT will determine the number of wells and monitoring frequency required to assess changing conditions in groundwater quality during cleanup activities. The BCT will also determine if further surface water monitoring is needed.

6.7.2 Rationale

Interim monitoring of groundwater is necessary to assess contaminant extent, the rate and direction of contaminant movement, and provide sufficient data to verify when cleanup levels

TABLE 6-1. FUTURE LAND USE RISK ASSESSMENT FOR DEVELOPMENT OF REMEDY SELECTIONS

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface/Sediment			
Operable Unit 1, Fritzsche Army Airfield	Ingestion of soil, dermal contact with soil, inhalation of airborne soil particles	Fuels, waste oils solvents, TCE, MEK	Fuels, waste oils solvents, TCE, MEK	Fuels, waste oils solvents, TCE, MEK	Open space		Open space/ university
Operable Unit 2, Fort Ord Landfills	Ingestion of water and soil, dermal contact with water, inhalation of chemicals from groundwater or soil	TCE and other solvents	TCE and other solvents, metals		Open space/recreational	Housing/recreational	Open space/ recreational
Site 1, Ord Village Sewage Treatment Plant	TBD		Waste Oils, solvents fuels, heavy metals	Waste Oils, solvents fuels, heavy metals	No longer in use		TBD
Site 2, Main Garrison Sewage Treatment Plant	TBD		PCE, TCE, DCE, HBPFC, heavy metals, pesticides	PCE, TCE, DCE, HBPFC, heavy metals, pesticides	Sewage transfer station		TBD
Site 3, Beach Trainfire Ranges	TBD		Heavy metals	Heavy metals	No longer in use		TBD
Site 4, Beach Stormwater Outfalls	TBD		Waste oils, solvents	Waste oils, solvents	Beach		TBD
Site 5, Range 36A Explosive Ordnance Disposal	TBD		Explosive residue, RDX, HMX	Explosive residue, RDX, HMX	No longer in use		TBD
Site 6, Range 39 Abandoned Car Dump	TBD		Petroleum hydrocarbons	Petroleum hydrocarbons	No longer in use		TBD
Site 7, Ranges 40 & 41 Fire Demo Area	TBD		Petroleum hydrocarbons	Petroleum hydrocarbons	No longer in use		TBD
Site 8, Range 49 Molotov Cocktail Range	TBD		Petroleum hydrocarbons	Petroleum hydrocarbons	No longer in use		TBD
Site 9, Range 39 Flamed Fuel Exhibition	TBD		Petroleum hydrocarbons	Petroleum hydrocarbons	No longer in use		TBD

TABLE 6-1. FUTURE LAND USE RISK ASSESSMENT FOR DEVELOPMENT OF REMEDY SELECTIONS

Continued

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface/Sediment			
Site 10, Fire Drill Burn Pit	TBD		Fuels, waste oils, heavy metals, solvents	Fuels, waste oils, heavy metals, solvents	No longer in use		TBD
Site 11, AAFES Fueling Station	TBD		Fuels, oils, heavy metals	Fuels, oils, heavy metals	No longer in use		TBD
Site 12, DOL Automotive Yard Cannibalization Yard, Lower Meadow Area	TBD	Solvents, TCE, PCE	Solvents, fuels, oils, battery acid	Solvents, fuels, oils, battery acid	No longer in use		TBD
Site 13, Railroad Right-of-Way	TBD		Unknown	Unknown	No longer in use		TBD
Site 14, 707th Maintenance Facility	TBD		Fuels, oils, solvents, grease	Fuel, oils, solvents, grease	No longer in use		TBD
Site 15, Directorate of Engineering and Housing (DEH) Yard	TBD		Pesticides, PCBs	Pesticides, PCBs	DEH Maintenance Yard		TBD
Site 16, DOL Maintenance Yard, Pete's Pond Area	TBD		Fuels, oils, solvents, UXO	Fuel, oils, solvents, UXO	No longer in use		TBD
Site 17, 1400 Block Motorpool	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 18, 1600 Block Motorpool and Housing (DEH) Yard	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 19, 2200 Block Facility	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 20, South Parade Ground, 3800 Block Motorpool 519th Motorpool	TBD		Fuels, oils, solvents, landfill	Fuel, oils, solvents, landfill	No longer in use		TBD
Site 21, 4400/4500 Blocks Motorpool East	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD

TABLE 6-1. FUTURE LAND USE RISK ASSESSMENT FOR DEVELOPMENT OF REMEDY SELECTIONS

Continued

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface/Sediment			
Site 22, 4400/4500 Blocks Motorpool West	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 23, 3700 Block Motorpool	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 24, Old DEH Yard	TBD		Pesticides, fuels	Pesticides, fuels	No longer in use		TBD
Site 25, Former DRMO Site	TBD		PCBs, pesticides	PCBs, pesticides	No longer in use		TBD
Site 26, Sewage Pump Station	TBD		None	None	No longer in use		TBD
Site 27, Army Reserve Motorpool	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 28, Barracks and Main Garrison Area	TBD		PCE	PCE	No longer in use		TBD
Site 29, DRMO	TBD		PCBs	PCBs	No longer in use		TBD
Site 30, Driver Training Area	TBD		Fuels, oils, solvents	Fuel, oils, solvents	No longer in use		TBD
Site 31, Former Dump Site	TBD		Unknown	Unknown	No longer in use		TBD
Site 32, East Garrison Sewage Treatment Plant	TBD		Fecal coliform	Fecal coliform	No longer in use		TBD
Site 33, Golf Course	TBD		Pesticides, fungicides	Pesticides, fungicides	No longer in use		TBD
Site 34, Fritzsche AAF Fueling Facility	TBD		Aircraft fuels, solvents	Aircraft fuels, solvents	No longer in use		TBD
Site 35, Aircraft Cannibalization Yard	TBD		Aircraft fuels, solvents	Aircraft fuels, solvents	No longer in use		TBD
Site 36, Fritzsche AAF Sewage Treatment Plant	TBD		Solvents, heavy metals, fuels	Solvents, heavy metals, fuels	No longer in use		TBD

TABLE 6-1. FUTURE LAND USE RISK ASSESSMENT FOR DEVELOPMENT OF REMEDY SELECTIONS

Continued

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface/Sediment			
Site 37, Trailer Park Maintenance Yard			Grease, fuel, oils	Grease, fuel, oils	No longer in use		TBD
Site 38, ASFES Dry Cleaners			Solvents	Solvents	No longer in use		TBD
Site 39, Inland Ranges/Impact Area			UXO, explosive residue	UXO, explosive residue	No longer in use		TBD
Site 40, Fritzsche AAF Defueling Area			Fuels	Fuels	No longer in use		TBD
Site 41, Crescent Bluff Burn Pit	TBD		Solvents, heavy metals, hydrocarbons dioxins	Solvents, heavy metals, hydrocarbons dioxins	No longer in use		TBD

have been achieved or when no further reduction in contaminant level is feasible. Interim monitoring of surface water is required to assess ecological risks.

6.7.3 Status/Strategy

Approximately 160 wells are monitored quarterly for water levels and for chemicals of concern. The current groundwater extraction and treatment system at OU 1 is sampled monthly for chemicals of concern at the influent and effluent sampling ports.

6.8 Excavation of Contaminated Materials

This section summarizes unresolved issues pertaining to the excavation of contaminated materials at Fort Ord.

6.8.1 BCT Action Items

There are no BCT action items with regard to the excavation of contaminated materials.

6.8.2 Rationale

Excavation of contaminated materials is necessary to remove sources of potential groundwater contamination and to protect human health and the environment.

6.8.3 Status/Strategy

Contaminated soil has been excavated at various sites on Fort Ord as part of remedial investigations and/or interim and final remedial actions. Soil will be excavated at various sites as part of the interim actions scheduled for implementation in March 1994.

6.9 Protocols for Remedial Design Reviews

This section summarizes unresolved issues pertaining to protocols for remedial design reviews at Fort Ord.

6.9.1 BCT Action Items

The BCT will review remedial designs for Fort Ord.

6.9.2 Rationale

Review of remedial designs is critical to ensure that they are technically sound and meet the requirements of the FFA and the ROD.

6.9.3 Status/Strategy

Remedial designs are reviewed by technical staff at the USACE, USEPA, and state regulatory agencies at the 30 percent design stage. The design may be revised based on the technical comments from the reviewer(s). Remedial designs are reviewed again at the 90 percent design stage. The remedial design may be revised based on technical comments and finalized.

6.10 Conceptual Models

This section summarizes unresolved issues pertaining to the development of conceptual models required to complete the Fort Ord environmental restoration program.

6.10.1 BCT Action Items

The BCT will complete conceptual models for contaminant transport and uptake by human and ecological receptors.

6.10.2 Rationale

Conceptual models are necessary to understand contaminant migration pathways and potential receptors such that remedial investigations, risk assessments, and feasibility studies can be completed.

6.10.3 Status/Strategy

Completed conceptual models will be presented in the Draft RI/FS to be completed in August 1994. Data and figures associated with the conceptual models that have been completed to date are provided in Appendix E.

6.11 Cleanup Standards

This section summarizes unresolved issues pertaining to the establishment of cleanup standards at Fort Ord.

6.11.1 BCT Action Items

The BCT has planned to:

- ▶ Develop cleanup standards for chemicals of concern in soil and groundwater at each site, and
- ▶ Establish cleanup standards for sites that are likely to be reused or transferred to the public.

6.11.2 Rationale

In the absence of federal or state mandated cleanup standards for hazardous or designated waste, the approach for providing cleanup criteria for a site is to conduct a risk assessment specific to the site or to use preliminary remediation goals which have been developed for Fort Ord. Preliminary remediation goals provide health-based guidance criteria concentrations for a number of chemical constituents based on specific exposure routes.

6.11.3 Status/Strategy

Cleanup standards have been developed for OU sites and interim action sites and will be developed for all other sites in the installation-wide FS. Tables 6-2 and 6-3 are provided to present human health and surface water cleanup standards.

6.12 Initiatives for Accelerating Cleanup

In June 1992, the Fort Ord Team prepared an Acceleration Action Plan for Cleanup at Fort Ord. This plan outlined the objectives and purpose of accelerating the cleanup process and actions to be taken to meet those objectives.

6.12.1 BCT Action Items

The BCT will continue to implement the key elements of the plan, which include:

- ▶ Risk-based approach to identify site-specific contamination source areas and installation-wide contaminant transport mechanisms.
- ▶ Rolling RI; confirmed source areas or other areas of interest are placed on independent schedules so that extensive work at the area does not delay investigation or cleanup activities at other sites.
- ▶ Designation of operable units for sites with previous IRP investigations.
- ▶ Minimized regulatory agency review of documents by including next phase workplans as appendices to site reports and use of data summary reports coupled with technical presentations to eliminate complex characterization reports. Additionally, proposed plans and Records of Decision are submitted concurrently to decrease review time.
- ▶ Site Elimination Actions are conducted as part of the investigation approach to cleanup small-scale sites concurrent with investigation. This eliminates additional steps of site characterization and cleanup feasibility analysis. To implement this process, Fort Ord has prepared, with regulatory agency concurrence, an Interim Action ROD applicable to the entire installation under specific guidelines.

TABLE 6-2 PRELIMINARY REMEDIATION GOALS*

Chemical	Lowest PRG	Based on Noncancer Health Effects			Based on Carcinogenesis	
		Child Resident	Adult Resident	Constructi on Worker	Adult Resident	Constructi on Worker
Acenaphthene	960	960	4,600	31,000	NA	NA
Acetone	220	220	900	8,200	NA	NA
Antimony	27	27	290	57	NA	NA
Arsenic	0.87	20	220	44	0.87	60
Barium	1,000	1,000	4,700	4,100	NA	NA
Beryllium	0.39	340	3,700	730	0.39	28
Bis(2-ethylhexyl)phthalate	13	320	1,500	1,000	13	3,200
Cadmium	8.1	34	370	73	8.1	380
Carbon disulfide	0.96	0.96	3.9	3.7	NA	NA
Carbon tetrachloride	0.025	29	190	750	0.025	8.6
Chlordane	0.14	0.97	4.6	3.2	0.14	34
Chromium VI	0.23	7.2	30	38	0.23	11
Copper	2,500	2,500	27,000	5,300	NA	NA
4,4'-DDT	0.53	8.0	38	26	0.53	130
Dieldrin	0.011	0.80	3.8	2.6	0.011	2.8
Ethylbenzene	830	830	3,700	3,900	NA	NA
Fluorene	640	640	3,100	21,000	NA	NA
Lead(a)	240	240	3,900	460	NA	NA
Mercury	20	20	210	41	NA	NA
Methyl ethyl ketone	620	620	2,900	3,300	NA	NA
2-Methylnaphthalene	640	640	3,100	2,100	NA	NA
Petroleum Hydrocarbons**	500	(b)	(b)	(b)	500	120,000
Naphthalene	640	640	3,100	2,100	NA	NA
Nickel	130	1,400	15,000	2,900	130	6,300
Phenanthrenene	640	640	3,1000	2,1000	NA	NA
Pyrene	480	480	2,300	16,000	NA	NA
Selenium	340	340	3,600	710	NA	NA
Silver	340	340	3,600	710	NA	NA
Tetrachloroethylene	0.16	4.10	2,700	11,000	0.16	54
Thallium (as Thallic oxide)	4.7	4.7	50	100	NA	NA
Toluene	190	190	770	3,700	NA	NA
1,2,4-Trichlorobenene	49	49	210	710	NA	NA
Vanadium	470	470	5,000	1,000	NA	NA
Xylenes	130	130	520	5000	NA	NA
Zinc	20,000	20,000	210,000	42,000	NA	NA

*All PRGs are in milligrams per kilogram, and are taken from the: *Draft Technical Memorandum, Preliminary Remediation Goals, Fort Ord, California*, Dated June 14, 1993. Prepared by HLA for the Sacramento COE.

**This PRG is based on maximum concentrations of individual carcinogenic and non-carcinogenic constituents in used motor oil.

(a)*Draft Final Basewide Background Soils Investigation*, March 15, 1993. Prepared by HLA for the Sacramento COE.

(b)Calculated value exceeds 100% of soil, indicating noncancer health effects would not be expected at any soil concentration.
NA = Not available.

TABLE 6-3. SURFACE WATER STANDARDS

Constituent/Parameter	Concentration Limit/Criteria
CRITERIA FOR DOMESTIC WATER SUPPORT WATER	
Surface water standards will be addressed as part of Fort Ord's NPDES Permit and are not threatened by Fort Ord's closure or planned remediation. Potable water is supplied by pumpage from wells in the East Garrison that are completed in the 180-foot and 400-foot aquifers.	
RADIONUCLIDES	
Analysis for radionuclides have not been performed for either surface or drinking water supplies.	

- ▶ Innovative investigation techniques to decrease amount of investigation time including or specialized drilling techniques or non-intrusive techniques such as surface geophysics.
- ▶ Development of installation-wide risk-based cleanup levels consistent with the regulatory agency Preliminary Remediation Goals and ARARs and utilizing a installation-wide background chemical study.

Additional activities proposed in the Acceleration Action Plan include:

- ▶ Basewide Remedial Action Technology Screening to identify generic technologies most suited to cleanup at Fort Ord and decrease the number and length of site-specific feasibility studies.
- ▶ Utilization of design/build concept using the Fort Ord DPW employees or potential displaced workers in combination with A-E investigation and design contractor.
- ▶ Identification of innovative but not experimental cleanup technologies.

In addition to the Acceleration Action Plan activities to accelerate cleanup, a significant community relations program has been conducted to keep the community informed or solicit input on proposed cleanup activities.

6.12.2 Rationale

It is desirable to initiate accelerated cleanups at Fort Ord to facilitate the property transfer process.

6.12.3 Status/Strategy

The following initiatives have been implemented by the Project Team for expediting response actions at the installation:

- ▶ Evaluate the use of OUs that reflect current IRP investigations to expedite investigation and review processes.
- ▶ Target Source Areas - Target source areas for early RAs.
- ▶ Identify ARARs - Early in the project, develop a list of ARARs by obtaining lists of ARARs from the state and other agencies and examine the RODs for similar sites in the same state to identify which ARARs are likely to apply.
- ▶ Risk-based Cleanup - Pursue negotiations with the regulators to agree on risk-based cleanup standards based on future land usage.

- ▶ **Agreements** - The use of Interagency Agreement, FFAs, and DoD/State Memorandum of Agreement to implement agreements and expedite cleanup needs to be explored.
- ▶ **Defined Document Review Process** - Negotiate terms with the regulatory reviewers to streamline the review process by agreeing to a definitive time cycle (such as 12 months) from the submittal of a draft FS/PP to the signing of a ROD.
- ▶ **Concurrent Reviews** - Develop a complete list of reviewers early and pursue parallel review tracks to eliminate delays.
- ▶ **Team Approach** - Build a strong team consisting of the installation RPM, U.S. Army representatives, contractors, and federal and state regulatory personnel that have the authority, responsibility, and accountability for implementing innovative solutions to remediate and close sites in a timely, cost-effective manner.
- ▶ **Joint Preparation** - Expedite the document preparation and review/approval by forming a working team with USEPA and the state when preparing required documents such as DDs and RODs.
- ▶ **Community Involvement** - Involve the community during the remedial process to encourage support at the time of site closure. By informing the community during the process, the likelihood of opposing comments during the public comment period would be lessened.
- ▶ **Concurrent PP and ROD/DD** - Prepare the PP and the draft ROD or DD concurrently to facilitate simultaneous review by DoD, USEPA, and/or the state. Remain flexible as comments to the PP may result in changes to the ROD/DD.
- ▶ **Innovative Technologies** - Pursue collaborative projects using innovative technologies being researched at the U.S. Army or those suggested by the contractor.
- ▶ **Generic Procedures** - Develop generic procedures and Scopes of Work for common problems or common types of contaminated sites (such as fuel contamination in soil). The procedures should be flexible enough for site-specific modifications to be made.
- ▶ **Innovative Contracting** - Maximize flexibility of contracting procedures, investigate use of level-of-effort, direct/cost reimbursement, award incentives, and other flexible contracting methods.
- ▶ **Personnel and Resource** - Determine person-hour requirements expertise and funding required to handle existing and proposed IRP/Compliance Programs, including support to TRC and the CRP.

6.13 Remedial Actions

This section summarizes unresolved issues pertaining to the implementation of remedial actions performed as part of the Fort Ord environmental restoration program.

6.13.1 BCT Action Items

The BCT will complete Interim Action, OU 1, OU 2, and installation-wide RODs so that implementation of remedial actions can begin.

6.13.2 Rationale

A ROD is required under CERCLA before a remedial action can be implemented.

6.13.3 Status/Strategy

An Interim Action ROD for Shallow Soil Remediation is near completion with final approval anticipated for February 1994. The OU-1 and OU-2 RODs are scheduled for completion in June and November 1994, respectively. The installation-wide ROD is scheduled for completion in March 1997 according to the FFA. Fort Ord is currently targeting completion of the Installation-wide ROD for March 1996 in accordance with the accelerated schedule presented in the Action Plan. Installation-wide remedial actions are scheduled to begin in February 2000 according to the FFA schedule and in February 1999 according to the accelerated schedule.

6.14 Review of Selected Technologies for Application of Expedited Solutions

This section summarizes unresolved issues pertaining to the review of selected technologies for the application of expedited solutions at Fort Ord.

6.14.1 BCT Action Items

There are no BCT action items for review of selected technologies.

6.14.2 Rationale

The implementation of proven technologies may reduce the time required to remediate certain areas at Fort Ord.

6.14.3 Status/Strategy

A draft version of the Fort Ord remedial technology screening report is currently under USACE and agency review. This report presents a process for screening and selection of proven remedial technologies to expedite implementation of remedial activities at selected areas.

6.15 Hot Spot Removals

There are currently no hot spot removal actions anticipated at Fort Ord.

6.15.1 BCT Action Items

If any hot spots are identified at Fort Ord, the BCT will review the situation to determine if removal of the hot spots will expedite cleanup and property transfer efforts. If these efforts will be expedited by a hot spot removal, the BCT may elect to incorporate this approach into the remedial action strategy for the installation.

6.15.2 Rationale

Hot spot removals may expedite any required cleanup efforts and facilitate property transfer. If appropriate, hot spot removals may be used to achieve these goals.

6.15.3 Status/Strategy

Should information arise which would suggest the need for immediate action in order to protect human health and the environment, the BCT in conjunction with USAEC and USACE, Sacramento District will evaluate the situation and make decisions regarding the best strategy for removal.

6.16 Identification of Clean Properties

This section summarizes issues that need to be resolved with regard to identifying clean properties at Fort Ord.

6.16.1 BCT Action Items

The BCT will integrate results of building surveys and IRP site investigations to define areas that are CERFA clean. The BCT will also finalize the CERFA report for Fort Ord.

6.16.2 Rationale

Clean study areas need to be defined to evaluate reuse alternatives prior to closure and to expedite disposal of clean areas.

6.16.3 Status/Strategy

Proposed disposal/reuse study areas are identified in Figure 2-1.

6.17 Overlapping Phases of the Cleanup Process

This section summarizes issues that need to be resolved with regard to overlapping phases of the cleanup process at Fort Ord.

6.17.1 BCT Action Items

There are no BCT action items planned to overlap phases of the cleanup process.

6.17.2 Rationale

Overlapping phases of the cleanup process may expedite the remediation process by eliminating redundant efforts.

6.17.3 Status/Strategy

Fort Ord has implemented overlapped phases of the cleanup process and is continuing to do so to ensure expediting of the cleanup and disposal of property.

6.18 Improved Contracting Procedures

This section summarizes the status of ongoing contracting procedures and issues that need to be resolved in regard to improving contracting procedures at Fort Ord.

6.18.1 BCT Action Teams

The BCT will develop capability to provide a full service contractor that can provide environmental investigation, remedial design and remedial alternative construction activities (full turn-key capability) for appropriate sites and projects at Fort Ord.

6.18.2 Rationale

The capability of a full service contractor as described above would provide for total "cradle to grave" continuity on applicable projects. Procurement times would be significantly reduced or eliminated between phases of a project, leading to expedited remediation.

6.18.3 Status/Strategy

Fort Ord's main contracting support currently comes from the USACE Sacramento District. One contractor was selected for all environmental restoration activities at Fort Ord.

Currently, remedial alternative construction activities must be handled through separate procurement, by either an Invitation for Bid, a Request for Proposal, or a Purchase Order. Other means, such as pre-placed remedial contracts or emergency remedial contracts, are available through the USACE.

Other USACE contracts and USACE Districts or Divisions have been used over the course of the NPL/BRAC project at Fort Ord when such use was appropriate for the requirements of the installation. In addition, the installation has obtained services from other U.S. Army agencies for restoration activities when the requirements dictated the need.

The USACE is currently in the progress of selecting a Total Environmental Restoration Contract (TERC) with Fort Ord designated as the "anchor installation", or primary user, for this contract. This contract will provide the full service capability described above. Contract award is scheduled for late July 1994.

6.19 Interfacing with the Community Reuse Plan

Interface with a community reuse plan is desirable to expedite implementation of remedial actions, and identification and transfer of parcels to the community.

6.19.1 BCT Action Items

A CRP has been prepared for Fort Ord. The BCT will update the CRP as necessary.

6.19.2 Rationale

Coordination with the CRP contributes to the selection of appropriate cleanup standards and facilitates implementation of remedial alternatives, ultimately resulting in successful transfer of property.

6.19.3 Status/Strategy

The BCT is using the reuse scenario provided by FORG to evaluate the restoration with respect to future land use. In addition, the RAB will allow the community and the BCT to study the progress and decisions regarding Fort Ord.

6.20 Bias for Cleanup Instead of Studies

Whenever possible, the BCT will select early cleanup rather than additional studies of potentially contaminated sites. This approach will expedite early achievement of cleanup goals and transfer of property.

6.20.1 BCT Action Items

The BCT will make every effort to implement any necessary remedial technologies as soon as possible to facilitate transfer of Fort Ord.

6.20.2 Rationale

Early implementation of remedial alternatives will reduce the need for additional studies of contaminated sites and will accelerate completion of cleanup activities. This in turn will facilitate property transfer efforts.

6.20.3 Status/Strategy

As demonstrated by the Acceleration Action Plan discussion on Site Elimination Actions, cleanup is emphasized in lieu of long-term studies. As part of Fort Ord's initiatives to cleanup sites, Fort Ord has prepared an Interim Action ROD that allows small-scale cleanup of potential contaminant source areas.

6.21 Expert Input on Contamination and Potential Remedial Actions

This section summarizes issues that need to be resolved regarding expert input on contamination and remedial actions at Fort Ord.

6.21.1 BCT Action Items

There are no BCT action items with regard to obtaining expert input on contamination and potential remedial actions.

6.21.2 Rationale

The use of several experts can reduce the time it takes to reach target cleanup levels and promote an expedited property transfer process.

6.21.3 Status/Strategy

The state, USEPA, USAEC, U.S. Army Environmental Hygiene Agency (USAEHA), and contractors will continue to ensure that the proper resources are used to evaluate contamination and potential remedial actions.

6.22 Presumptive Remedies

The USEPA has issued guidance on presumptive remedies for a few specific contamination scenarios, e.g., one of the presumptive remedies for vadose zone volatile organic compound contamination is soil vapor extraction. Some of these presumptive remedies may be applicable to Fort Ord if contamination scenarios are similar to those in the presumptive remedy guidance.

6.22.1 BCT Action Items

The BCT will consider presumptive remedies to expedite implementation of the installation's remedial action strategy.

6.22.2 Rationale

The use of presumptive remedies may potentially expedite the cleanup process by allowing for expedited implementation of cleanup technologies.

6.22.3 Status/Strategy

Field studies and cleanup activities have been completed which identified bioremediation and soil venting as presumptive remedial technologies for implementation at other appropriate areas at Fort Ord. Evaluation and selection of additional presumptive remedies will continue during the installation-wide RI/FS process.

6.23 Partnering (Using Innovative Management, Coordination, and Communication Techniques)

Partnering is the process of fostering cooperation and communication between key players in the BRAC process.

6.23.1 BCT Action Items

At the present time, the BCT is actively fostering partnerships with USAEC, the community, and regulatory agencies through scheduled meetings and the document review process.

6.23.2 Rationale

Close cooperation/coordination between Fort Ord, USAEC, the community, and regulators helps foster good working relationships, and can accelerate implementation of the installation's remedial action strategy by keeping "key players" informed of the status of environmental efforts, soliciting their input, and addressing potential concerns in the remediation process.

6.23.3 Status/Strategy

The BCT has been established to facilitate input at all levels from the U.S. Army and regulatory agencies. This cooperation and teamwork is evidenced by the concurrence of the signatory regulatory agencies of the Acceleration Action Plan. A Restoration Advisory Board has also been established to provide an opportunity for the community to provide input to the BCT on cleanup activities at Fort Ord.

6.24 Updating the CERFA and Natural/Cultural Resources Documentation

This section summarizes issues that need to be resolved with regard to updating the EBS and natural/cultural resources documentation.

6.24.1 BCT Action Items

There are no BCT action items to updating CERFA and natural/cultural resources documentation.

6.24.2 Rationale

CERFA and natural/cultural resources documentation must be current to dispose of real property at Fort Ord.

6.24.3 Status/Strategy

The CERFA report is scheduled for USEPA concurrence in April 1994. The Fort Ord Habitat Management Plan was recently signed by the U.S. Army and USFWS.

Natural/cultural resources documentation will be updated.

6.25 Implementing the Policy for On-Site Decision Making

This section summarizes issues that need to be resolved to implement policy for on-site decision making at Fort Ord.

6.25.1 BCT Action Teams

There are no BCT action items for clarifying on-site decision making policy.

6.25.2 Rationale

Procedures have been developed with the regulatory agencies to minimize delays in the investigation and cleanup process when field conditions are different than those anticipated.

6.25.3 Status/Strategy

Procedures have been developed to allow contractors to make field decisions as conditions change during field investigations so long as the regulatory agencies, USACE, and the U.S. Army are notified. On-site decision making will continue to be implemented as necessary using these procedures.

6.26 Structural and Infrastructure Constraints to Reuse

At the present time, no structural or infrastructure constraints in the reuse of Fort Ord have been identified.

6.26.1 BCT Action Items

If structural and infrastructure constraints in the reuse of Fort Ord are identified, the BCT will evaluate approaches for overcoming these constraints or identifying alternative reuses so the property can be transferred.

6.26.2 *Rationale*

Potential structural and infrastructure constraints must be overcome or alternative reuses must be identified to allow transfer of Fort Ord.

6.26.3 *Status/Strategy*

At the present time, no structural or infrastructure constraints in the reuse of Fort Ord have been identified.

6.27 Other Technical Reuse Issues to be Resolved

At the present time, no other technical reuse issues have been identified.

CHAPTER 7

► PRIMARY REFERENCES ◀

Community Environmental Response Facilitation Act Report, Fort Ord, Monterey, California, Arthur D. Little, Inc., 6 December 1993.

Enhanced Preliminary Assessment Report, Fort Ord, California, Volume 1, Roy F. Weston, Inc., December 1990.

Final Feasibility Study Report, Remedial Investigation/Feasibility Study for Fort Ord Landfills, Fort Ord, Monterey, California, Dames & Moore, 1 October 1993.

Fort Ord, California, Base-Wide Remedial Investigation/Feasibility Study, Volume 1: Literature Review and Base Inventory Report, EA Engineering, Science, and Technology, March 1991.

OU 1 Remediation Confirmation Study, Draft Report, Fort Ord, Harding Lawson Associates, 8 February 1994.

Remedial Investigation/Feasibility Study Work Plan, Fort Ord, California, excerpts, Harding Lawson Associates, December 1991.

Summary of Base Reuse Plan, Fort Ord, Preliminary Draft, Fort Ord Reuse Group, 8 February 1994.

APPENDIX A

► FISCAL YEAR FUNDING REQUIREMENTS/COSTS ◀

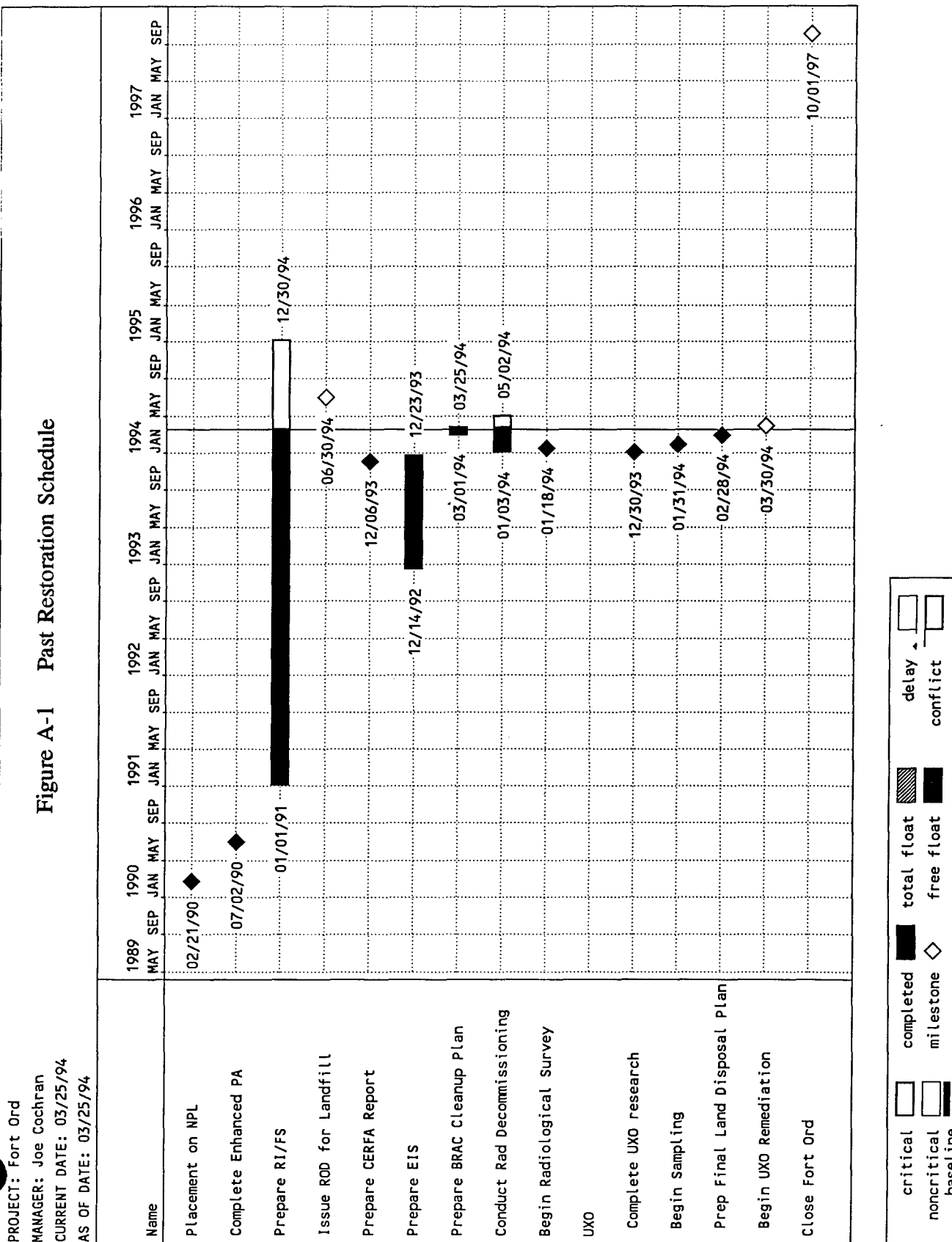
Table A-1 Restoration Summary

Cost information has not been provided for Fort Ord. Future changes will be reflected here.

Table A-2 Environmental Compliance Summary

Cost information has not been provided for Fort Ord. Future changes will be reflected here.

Figure A-1 Past Restoration Schedule



APPENDIX B

► INSTALLATION ENVIRONMENTAL RESTORATION DOCUMENTS SUMMARY TABLES ◀

TABLE B-1. PROJECT DELIVERABLES

Year	Phase	Project Title	Report No.	Sites Examined	Delivery Date by Whom
1990	ENPA	Enhanced Preliminary Assessment	1	AREEs 1-61	12/90, Weston
1993	RI	Basewide Background Soil Investigation	2	Basewide	3/15/93, HLA
1993	RI	Basewide Hydrogeologic Characterization	3	Basewide	6/7/93, HLA
1993	RI	Basewide Surface Water Outfall Investigation	4	Basewide	4/5/93, HLA
1992	RI	Basewide Storm Drain and Sanitary Sewer Investigation	5	Basewide	7/6/92, HLA
1993	RI	Data Evaluation and Recommendation Report	6	Site 10	6/9/93, HLA
1993	RI	Data Evaluation and Recommendation Report	7	Site 1 & 2	5/5/93, HLA
1993	RI	Site Characterization Report	8	Site 14	1/8/93, HLA
1993	RI	Site Characterization Report	9	Site 20	3/29/93, HLA
1992	RI	Site Characterization Report, Part I	10	Site 34	6/2/92, HLA
1992	RI	Site Characterization Report, Part II	11	Site 34	6/12/92, HLA
1992	RI	Basewide Biological Inventory	12	Basewide	12/8/92, HLA
1993	RI	Data Evaluation and Recommendation Report	13	Site 5	1/14/93, HLA
1993	RI	Site Characterization Report	14	Site 32	8/6/93, HLA
1992	RI	RI	15	Site 6	11/11/92, HLA
1992	RI	Site Characterization Report	16	Site 9	11/5/92, HLA
1993	RI	Site Characterization Report	17	Site 11	2/26/93, HLA
1992	RI	RI	18	Site 13	12/10/92, HLA
1992	RI	Site Characterization Report	19	Site 15	11/19/92, HLA
1993	RI	Site Characterization Report	20	Site 16	3/19/93
1993	RI	Site Characterization Report	21	Site 17	8/6/93
1992	RI	Site Characterization Report	22	Site 19	10/27/92
1993	RI	Site Characterization Report	23	Site 21	4/8/93
1992	RI	Site Characterization Report	24	Site 23	10/20/92
1992	RI	Site Characterization Report	25	Site 27	7/24/92
1992	RI	Site Characterization Report	26	Site 29	12/4/92
1993	RI	Site Characterization Report	27	Site 30	2/11/93
1992	RI	Site Characterization Report	28	Site 31	10/27/92
1993	RI	Site Characterization Report	29	Site 35	6/27/93
1992	RI	Site Characterization Report	30	Site 37	11/20/92

TABLE B-1. PROJECT DELIVERABLES**Continued**

Year	Phase	Project Title	Report No.	Sites Examined	Delivery Date by Whom
1992	RI	Site Characterization Report	31	Site 40 & 41	12/30/92
1993	RI	Site Characterization Report	32	Site 25	6/18/93
1992	RI	Site Characterization Report	33	Site 38	7/15/92
1986	RI	Soil Contamination	34	OU 1	4/14/86
1987	RI	Groundwater	35	OU 1	6/5/87
1990	RA	Construction Report, Groundwater and Soil Treatment System	36	OU 1	5/30/90
1992	RI/FS Compliance	OU 1 Proposed Plan	37	OU 1	3/27/92

TABLE B-2. SITE DELIVERABLES

Site ID	PA/SI	RI/FS	RD/RA	Closeout	IRA	LTM	NFRAP
1							
2		7					✓
3							✓
4							
5		13					✓
6		15					
7							✓
8							
9		16					✓
10		6					
11		17					
12		7					✓
13		18					
14		8					
15		19					
16		20					✓
17		21					✓
18							
19		22					✓
20		9					
21		23					
22							
23		24					
24							✓
25		32					
26							
27		27					
28							
29		26					
30		27					
31		28					✓

TABLE B-2. SITE DELIVERABLES**Continued**

Site ID	PA/SI	RI/FS	RD/RA	Closeout	IRA	LTM	NFRAP
32		14					
33							✓
34		10, 11					
35		29					
36							
37		30					
38		33					
39							
40		31					
41		31					
OU 1		34, 35, 36, 37	36				
OU 2							

**TABLE B-3. TECHNICAL DOCUMENTS/DATA
LOADING STATUS SUMMARY**

Date	IRP Title	Site	Contractor	Service Center	IRDMIS Status/Other
1992-1993	RI/FS	2, 5, 6, 9-17, 19-21, 23, 25, 27, 29-32, 34, 35, 37, 38, 40 and 41	HLA		
1986-1987	RI/FS	OU 1	HLA		

APPENDIX C

► DECISION DOCUMENT/ROD SUMMARIES ◄

APPENDIX C

► DECISION DOCUMENT/ROD SUMMARIES ◀

As of March 1994, Fort Ord has prepared three draft records of decision (RODs). The first ROD, an Interim Action ROD, present remediation of contaminated surface soil at qualified sites. Certain sites (11 out of 41 sites) have met the criteria for an interim action response. The second ROD presents the remedial action for OU 2 landfills and underlying aquifers. The third ROD presents the remedial actions for the OU 1 FAAF Fire Drill Area. The OU 1 ROD summary is not included here. It will be included in the next BCP revision.

**INTERIM ACTION RECORD OF DECISION
CONTAMINATED SURFACE SOIL REMEDIATION
FORT ORD, CALIFORNIA
JANUARY 26, 1994**

SITE HISTORY/DESCRIPTION

Fort Ord is located near Monterey Bay in northwestern Monterey County, California., approximately 80 miles south of San Francisco. The base comprises approximately 28,000 acres adjacent to the cities of Seaside, Sand City, Monterey, and Del Rey Oaks to the south and Marina to the north. The Southern Pacific Railroad and Highway 1 pass through the western portion of Fort Ord, separating the beach front from the rest of the base. Laguna Seca Recreation Area and Toro Regional Park border Fort Ord to the south and southeast, respectively. Land use east of Fort Ord is primarily agricultural.

Since its opening in 1917, Fort Ord has primarily served as a training and staging facility for infantry troops. No permanent improvements were made until the late 1930s, when administrative buildings, barracks, mess halls, tent pads, and a sewage treatment plant were constructed. From 1947 to 1975, Fort Ord was a basic training center. After 1975, the 7th Infantry Division (Light) occupied Fort Ord. Light infantry troops are those that perform their duties without heavy tanks, armor, or artillery. Fort Ord was selected for closure in 1991. The majority of the soldiers were reassigned to other Army posts in 1993. Although Army personnel still operate the base, no active Army division is currently stationed at Fort Ord.

The three major developed areas within Fort Ord are the Main Garrison, the East Garrison, and Fritzsche Army Airfield (FAAF). The remaining undeveloped property (approximately 20,000 acres) was used for training activities. The Main Garrison contains commercial, residential; and light industrial facilities. It was constructed between 1940 and 1960s, starting in the northwest corner of the base and expanding

southward and eastward. During the 1940s and 1950s, there was a small airfield in the central portion of the Main Garrison. This airfield was decommissioned when FAAF was completed, and the airfield facilities were redeveloped as motor pools or for other operations. FAAF, which serves as the general airfield for Fort Ord, is in the northern portion of the base, adjacent to the city of Marina. FAAF was incorporated into Fort Ord in 1960 and expanded in 1961. The East Garrison occupies 350 acres on the northeastern edge of the base and consists of military and industrial support areas, recreational facilities, and recreational open space.

Generally, chemicals present in soil at Interim Action sites are the result of former routine maintenance and support activities on Fort Ord. Such activities include: maintenance of military vehicles at wash racks, tank storage of chemicals such as waste oil, the use of oil/water separators in drainage areas, and pesticide use and storage.

The decision document presents the chosen Interim Action for soil remediation of selected areas at 41 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites on Fort Ord.

SELECTED REMEDIAL ACTION

The selected remedial alternative for the Interim Action described in this Record of Decision (ROD) addresses immediate, imminent, and/or significant risks to human health and the environment posed by limited areas of shallow contaminated surface soil at Fort Ord, California. Interim Action at Fort Ord will likely be implemented before final remedial alternatives or cleanup levels for given chemicals have been established, but a conservative approach will be used in developing soil cleanup

levels for these Interim Action areas to reduce the likelihood of further remedial actions at an Interim Action area. The selected Interim Action remedy will involve the following activities:

- Biological and ecological assessment of each Interim Action area
- Use of site eligibility criteria for screening potential Interim Action areas
- A regulatory approval process for implementing Interim Actions
- Excavation of limited quantities of shallow contaminated surface soil, followed by confirmation sampling and backfilling with clean fill
- Soil treatment, recycling and/or disposal. Whenever possible, the contaminated soil will be treated or recycled, with landfill disposal used only as a last resort. Soil treatment/recycling will be performed at the Fort Ord Soil Treatment Area using biotreatment and/or soil vapor extraction. Whenever feasible, treated soil will be reused on Fort Ord.
- Preparation of confirmation reports of site remedial Interim Action activities

PERFORMANCE STANDARDS OR GOALS

Interim Action at Fort Ord will be implemented before final remedial alternatives or cleanup levels for given chemicals or combinations of chemicals have been established. Further remedial actions may be required at Interim Action areas after final cleanup levels are established in the basewide ROD for Fort Ord, which is anticipated to be completed in 1995. A conservative approach will be used in developing soil cleanup levels for these Interim Action areas to reduce the likelihood of further remedial actions at an Interim Action area. Therefore, the Interim Action is consistent with the anticipated final remedy for these areas.

RECORD OF DECISION OPERABLE UNIT 2

FORT ORD, CALIFORNIA

JANUARY 10, 1994

SITE HISTORY/DESCRIPTION

Fort Ord is located near Monterey Bay in northwestern Monterey County, California, approximately 80 miles south of San Francisco. The base comprises approximately 28,000 acres adjacent to the cities of Seaside, Sand City, Monterey, and Del Rey Oaks to the south and Marina to the north. The Southern Pacific Railroad and Highway 1 pass through the western portion of Fort Ord, separating the beach front from the rest of the base. Laguna Seca Recreation Area and Toro Regional Park border Fort Ord to the south and southeast, respectively. Land use east of Fort Ord is primarily agricultural.

Since its opening in 1917, Fort Ord has primarily served as a training and staging facility for infantry troops. No permanent improvements were made until the late 1930s, when administrative buildings, barracks, mess halls, tent pads, and a sewage treatment plant were constructed. From 1947 to 1975, Fort Ord was a basic training center. After 1975, the 7th Infantry Division (Light) was assigned to Fort Ord. Light infantry troops are those that perform their duties without heavy tanks, armor, or artillery. Fort Ord was selected for closure in 1991. The majority of the soldiers were reassigned to other Army posts in 1993. Although Army personnel still operate the base, no active Army division is currently stationed at Fort Ord.

The landfills were used for 30 to 35 years for residential and commercial waste disposal. The north landfill was used from 1956 to 1966 and was closed to waste disposal when the main landfill began operating. The main landfill was operated from 1960 until 1987 and may have received a small amount of chemical waste along with household and commercial refuse. The main landfill facility stopped accepting waste for disposal in May 1987 because of the initiation of

interim closure of the facility.

Waste received at the main landfill facility was placed in trenches approximately 30 feet wide, 10 to 12 feet below ground surface, and 10 to 15 feet apart. Waste was normally placed in these trenches to a height of approximately 10 feet above the trench bottom and covered with about 2 feet of native dune sand deposits excavated during trenching operations; however, thicker refuse sections exist within the landfill. The disposal methods at the north landfill are unknown but are believed to be similar to practices used in the main landfill.

Detailed records on the amounts or types of waste disposed of at the landfills are not available; however, information collected during field activities and from other sources indicate that household and commercial refuse, dried sewage sludge, construction debris, and a small amount of chemical waste (such as paint oil, pesticide, electrical equipment, ink, and epoxy adhesive) were placed in the landfill.

This Record of Decision (ROD) addresses the Fort Ord Landfills, also known as Operable Unit 2 (OU 2), north and south of Imjin Road. A playing field and roads are located on the landfill north Imjin Road. The north landfill covers approximately 30 acres, and residences are located nearby. The landfill south of Imjin Road (referred to herein as the main landfill) encompasses approximately 120 acres that have not been developed. This area is covered by uneven sand dunes with grass, shrubs, and bushes. This decision document presents the selected remedial actions for the OU 2 landfills site and underlying aquifers (upper aquifer and 180-foot aquifer).

SELECTED REMEDIAL ACTION

The selected remedial alternative for OU 2 described in this ROD addresses current or

potential significant risks to human health and the environment posed by OU 2 at Fort Ord, California. This is the second identified OU at Fort Ord. The identification of OUs at Fort Ord is pending completion of the basewide remedial investigation in 1994. The selected remedy will involve the following activities:

- Placement of an engineered cap over the OU 2 landfills to restrict rainfall infiltration and prevent leaching to underlying groundwater of any remaining volatile organic compounds (VOCs) in waste materials or soil. Deed restrictions would be placed on the property to ensure that the integrity of the cap is maintained during future use of the site and prevent potential future direct exposures to VOCs of the environment or people associated with future use.
- Extraction, treatment, and recharge of groundwater that contains VOCs from the upper aquifer at, and downgradient of, the Fort Ord landfills. This action would remove VOCs from groundwater that could pose threats to human health and the environment.
- Extraction, treatment, and recharge of 180-foot aquifer downgradient of the Fort Ord landfills groundwater as an interim action to prevent further migration of VOCs. The final cleanup remedy for the 180-foot aquifer will be addressed in the basewide ROD, which is anticipated to be completed in 1995.

PERFORMANCE STANDARDS OR GOALS

The remedial action objective for the shallow soils and waste materials is to restrict rainfall infiltration to prevent leaching to underlying groundwater of VOCs remaining in waste materials or soil and to prevent potential direct exposure to VOCs of the environment or people who use the site in the future. To protect human health and comply with federal and state law, groundwater must be returned to a

condition that will allow beneficial uses to occur, including future potential use as a drinking water source, without unacceptable risks to the users. Thus, the remedial action objectives for groundwater include cleaning up the upper aquifer to MCLs or lower. The provisional goals for the interim action in the 180-foot aquifer are also MCLs. Currently, no on- or off-base residents are exposed to TCE, because there are no consumers of untreated contaminated groundwater and no residents occupying land overlying the landfill.

APPENDIX D

► NO FURTHER RESPONSE ACTION PLANNED (NFRAP) SUMMARIES ◄

SUPERFUND PROPOSED PLAN:

NO ACTION SITES ARE PROPOSED FOR SELECTED AREAS AT FORT ORD, CALIFORNIA

DRAFT

United States Army

January 24, 1994

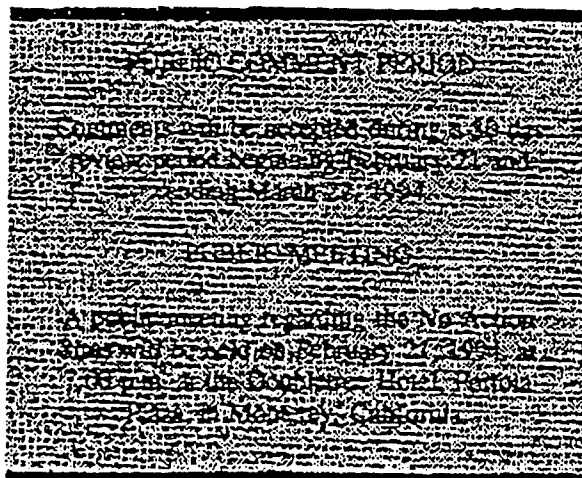
Introduction

The United States Army is presenting this Proposed Plan* for No Action Sites at Fort Ord for public review and comment. This fact sheet describes the preferred action for selected areas at Fort Ord (Figure 1) where: A site or operable unit is already in a protective state (i.e., the site or operable unit poses no current or potential threat to human health or the environment); CERCLA does not provide the appropriate authority to take any or complete remedial action; or No effective action can be taken using current available technology. These sites are termed No Action Sites (see page 2 for more detail).

This Proposed Plan summarizes information in various documents in the Administrative Record for the base. The Army encourages members of the local community and other concerned citizens to review these documents and comment on the alternatives presented before a final action or no action alternative is selected and approved. Information on how to make such comments is provided on page 5 of this document.

The Army is the responsible party and lead agency for conducting investigations, reporting, and implementing actions at Fort Ord. This Proposed Plan is part of the Army's community relations program, and meets the reporting requirements of Section 117(s) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). Public comments on this Proposed Plan will be addressed after public review and comment. These comments will be considered when the Army, in consultation with the U.S. Environmental Protection Agency (EPA) and the California Environmental Protection Agency (Cal/EPA), including the Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB), makes a final decision regarding the sites to be pursued for No Action Sites at Fort Ord.

Figure 1. Fort Ord Location Map



* Words in bold are defined in a glossary at the end of this document.

Site Background

Fort Ord is located in northwestern Monterey County, California, approximately 80 miles south of San Francisco (Figure 1). The base comprises approximately 28,000 acres adjacent to Monterey Bay and the cities of Seaside, Sand City, Monterey, and Del Rey Oaks to the south and Marina to the north. The Southern Pacific Railroad and Highway 1 pass through the western portion of Fort Ord, separating the beach front from the rest of the base. Laguna Seca Recreation Area and Toro Regional Park border Fort Ord to the south and southeast, respectively.

Since it was established in 1917, Fort Ord has primarily served as a training and staging facility for infantry troops. From 1947 to 1975, Fort Ord was a basic training center. After 1975, the 7th Infantry Division (Light) was based at Fort Ord. Fort Ord was selected for closure in 1991. The majority of the soldiers were reassigned to other Army posts in 1993. Although Army personnel still operate the base, the active Army division are no longer stationed at Fort Ord. Fort Ord was placed on the National Priorities List (NPL) of Superfund sites by the EPA on February 21, 1990. Although Fort Ord was placed on the NPL primarily because of volatile organic compounds (VOCs) in groundwater, the focus of this Proposed Plan is on sites which require no action.

Site Description

Definition and Description of a Typical No Action Site

A No Action Site (NAS) is a site that falls into one of the following typical definitions/descriptions.

- 1) Sites where no action is necessary to achieve protection of human health and the environment. Examples of this type of site would include: a site where a previous removal action reduced contamination to target cleanup concentrations (TCC) or a site where the chemical concentration is below TCC's.
- 2) Sites where there is no CERCLA authority to take action. Examples of these sites would include sites involving petroleum products and associated wastes which are excluded from CERCLA remedial action, sites which contain contaminants but are CERCLA disqualified, and sites not listed on the NPL.

Rationale for Performing a No Action, Action

The impact of Fort Ord's closure on the local economy is the primary reason to speed up implementation of site elimination action sites. Conversion of Fort Ord property to civilian uses is a high priority to both the local community and the Army. To meet Fort Ord's mission of transferring real property as soon as possible, remedial investigations, cleanup, and site identification at Fort Ord are being accelerated. Implementing NAS's will allow a portion of Fort Ord property to be available for civilian use earlier than scheduled in the base wide RI/FS. The basewide RI/FS is scheduled to be completed in mid-1995.

Proposed NAS are also in keeping with EPA's recommendations for Superfund sites.

Scope and Role of No Action Sites

CERCLA site characterizations are being completed for 41 sites at Fort Ord (Figure 2). The results of these and other characterizations will be used to evaluate whether these sites need an Remedial Investigation/Feasibility Study (RI/FS) or can be handled as Site Elimination Action (SEA) sites. SEA sites are: (1) sites where no further remedial action is required (No Action Sites) or (2) sites with areas containing limited amounts of affected soil that may be easily cleaned by an Interim Action (IA area). These two types of sites will be used to facilitate accelerated release of property for reuse.

DRAFT

DRAFT

Figure 2. Fort Ord Site Map

OU-1	Former Fire Drill Area	21	4400/4500 Blocks Motorpool (East)
OU-2	Fort Ord Landfills	22	4400/4500 Blocks Motorpool (West)
1	Ord Village Sewage Treatment Plant	23	3700 Block Motorpool
2	Main Garrison Sewage Treatment Plant	24	Old DEN Yard
3	Beach Firing Range	25	Former DRMO Site
4	Beach Stormwater Outfalls	26	Sewage Pump Stations - Bldgs 5871/6143
5	Range 36A (Explosive Ordnance Disposal)	27	Army Reserve Motorpool
6	Range 39 (Abandoned Car Dump)	28	Barracks and Main Garrison Area
7	Ranges 40 & 41 (Fire Demo Area)	29	DRMO
8	Range 49 (Molotov Cocktail Range)	30	Driver Training Area
9	Range 39 (Flamed Fuel Exhibition)	31	Former Dump Site
10	Fire Drill Burn Pit	32	East Garrison Sewage Treatment Plant
11	AAFES Fueling Station	33	Golf Course
12	DOL Automotive Yard, Cannibalization Yard, Lower Meadow Area	34	Fritzche AAF Fueling Facility
13	Railroad Right-of-Way	35	Aircraft Cannibalization Yard
14	707th Maintenance Facility	36	Fritzche AAF Sewage Treatment Facility
15	Directorate of Engineering and Housing (DEH) Yard	37	Trailer park Maintenance Shop
16	DOL Maintenance Yard, Pete's Pond Area	38	AAFES Dry Cleaners
17	1400 Block Motorpool	39	Inland Ranges/Impact Area
18	1600 Block Motorpool	40	Fritzche AAF Defueling Area
19	2200 Block Motorpool	41	Crescent Bluff Burn Pits
20	South Parade Ground, 3500 Block Motorpool, 519th Motorpool		

2.10.1

Screening Process for Recommended IA Areas

An IA area must meet given site conditions with respect to the nature and extent of the contaminated soil and IA location constraints, as described below. These criteria are included in the IA area eligibility checklist presented in the IAFS.

- Maximum Depth of Chemicals: IA excavations will be made with standard construction equipment to a maximum depth of 25 feet below grade. This depth limitation is based on the maximum reach of an extended backhoe. Furthermore, the bottom of IA excavations will be no deeper than 5 feet above the groundwater table, including the capillary fringe, at that area.

The maximum depth of chemicals detected above their respective TCCs will be estimated from data presented in the site characterization report. This estimated depth will be compared with the depth limitation discussed above. Any site with contaminated soil that requires excavation below those depth limitations will not be recommended for an IA as defined in this document and will be addressed in the basewide FI/FS.

- Maximum Volume of Excavated Soil: The maximum volume of contaminated soil to be removed from a recommended IA area will be estimated from available data collected during site characterization activities and presented in the Approval Memorandum. The maximum quantity of contaminated soil to be excavated at any single area considered for IA will be less than 5,500 cubic yards (cy). This maximum volume is based on a preliminary review of potential IA site data from available SGRs and is not a technical or regulatory restriction. Because an IA is intended to be limited in scope, this maximum quantity requirement is presented as a reasonable limit. Many IA areas will have much smaller quantities of soil. Agency approval will be required to exceed quantity limitation of 5,500 cy.

- Location Restrictions for IA Areas:

Excavation activities may be restricted in certain locations. Each recommended IA area will meet the following criteria:

- No IA will divert, modify, or impact an existing stream, watercourse, or wetland
- No property listed in the National Register of Historic places will be contaminated by IA excavations
- IA excavations will not impact oak trees greater than 6 inches in diameter and more than 2 feet tall
- IA areas in the coastal zone will require a consistency determination that the proposed remedial actions are in conformance with California's Coastal Zone Management Plan.

- Biological and Cultural Resource Screening:

Because endangered or threatened plants and animals are present at some locations at Fort Ord, a Biological Area Clearance (BAC) will be completed for each IA area. These species are generally found at undeveloped regions of the base. Because preliminarily identified IA areas are located in developed areas, these species are not anticipated to be contaminated by the proposed IAs. Documentation of the BAC will be included with the approval memorandum.

Similarly, a Cultural Resources Clearance (CRC) will be completed for each IA, either as part of current site characterization activities or prior to IA. Documentation of the CRC will also be included in the Approval Memorandum.

- Ecological Assessment: A qualitative Ecological Assessment (EA) of each IA area will be performed to determine if a quantitative risk assessment is required for an IA area. A summary of this qualitative ecological risk assessment will be included with the Approval Memorandum. If a quantitative risk assessment is recommended, the appropriateness of an IA at each area will be re-evaluated.

Summary of Site - Related Risks

The overall screening criteria for an NAS areas is an acceptable level of protection for human health and the environment. The chemical concentrations represented in the TCC's are regarded as acceptable limits for human health and the environment. This acceptable level of risk requires that the reasonable maximum exposure for a person to site-related chemicals result in an estimated additional risk of developing cancer of less than one-in-one million, and be without appreciable risk of deleterious noncancer health effects. This is in accordance with the National Contingency Plan (NCP) and CERCLA guidance.

Chemical-specific Preliminary Remediation Goals (PRGs) have been developed for soil at proposed areas (see Figure 3). These values will be revised as necessary to establish site-specific Target Cleanup Concentrations (TCCs). TCCs that meet the No Action criteria will be based on future anticipated land uses at Fort Ord. The mobility of chemicals in the affected soil will also be considered.

Regulatory Approval Process

An Approval Memorandum will be prepared for each proposed NAS area to demonstrate that the area meets the NAS requirements and site conditions. Each Approval Memorandum will be submitted by the Army to the EPA, DTSC, and RWQCB.

Advance notice of an NAS will be placed in a major local newspaper. Completed and planned NA activities will also be described in the newsletter, the *Advance*, prepared by the Corps of Engineers for local residents.

These decision documents will allow for the transfer of property, and may be prepared prior to the basewide ROD.

Similar to this document, a proposed plan for the basewide RI/FS will be prepared. Public review and comments can be made at that time regarding the results of these NAS and whether further actions are warranted at those areas.

DRAFT

How to Make Comments

The Monterey community and concerned citizens are encouraged to comment on the No Action alternative as summarized in this Proposed Plan. A public meeting regarding the Proposed Plan will be held on February 21, 1994, at 7:00 p.m. at the Doubletree Hotel, Portola Plaza, in Monterey, California. Representatives from the Army, the U.S. EPA, the DTSC, and the RWQCB will be present at this meeting to explain the NAS.

Written comments will also be accepted during the 30-day public review period; from February 21 to March 22, 1994. Correspondence should be sent to the attention of the U.S. Army Representative at the address provided in the following section.

Information Access

U.S. Army Representative

Department of the Army
HQ, U.S. Army Garrison (Fort Ord)
AFZW-DE-ENRD (Youngblood)
Fort Ord, CA 93941
Contact: Gail Youngblood
(408) 242-4505
Hours: 8:00 a.m. to 5:00 p.m.

Regulatory Representatives

EPA (Region IX)
75 Hawthorne Street
San Francisco, CA 94105
Contact: John Chesnut
(415) 744-2387 or (800) 231-3075
Hours: 8:00 a.m. to 5:00 p.m.

RWQCB - Central Coast Region
81 Higuera Street, Suite 200
San Luis Obispo, CA 93401-5414
Contact: David Eisen
(805) 542-4636
Hours: 8:00 a.m. to 5:00 p.m.

DTSC, Region 2
Site Mitigation Branch
700 Heinz Ave., Suite 200
Berkeley, CA 94710-2737
Contact: Mary Rose Cassa
(510) 540-3818
Hours: 8:00 a.m. to 5:00 p.m.

DRAFT

Information Repositories

Fort Ord Post Library
Bldg. 4275 North-South Road
Fort Ord, CA 94941-5777
(408) 242-3421
Hours: 12:00 pm to 8:00 pm
Sunday through Thursday

Seaside Branch Library
550 Harcourt Ave.
Seaside, CA 93955
(408) 899-2055
Hours: 10:00 am to 8:00 pm
Tuesday, Wednesday, Thursday
10:00 am to 6:00 pm
Friday and Saturday

GLOSSARY

Administrative Record - A compendium of all documents relied upon to select a remedial action pertaining to the investigation and cleanup of Fort Ord.

Affected Soil - Soil containing chemicals at concentrations not occurring naturally in soil at that area and which, if left in place, could have a detrimental impact on human health and/or the environment.

Bioremediation - A remedial treatment process whereby microorganisms, under the proper environmental conditions, degrade organic chemicals present in soil.

Chemical - In the context of this document, elements or compounds present at NAS areas; which, if left in place at current concentrations, would not detrimentally affect human health or the environment, including groundwater. Such chemicals may include petroleum hydrocarbons, pesticides, or metals.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) - A federal law that addresses the funding for and cleanup of abandoned or uncontrolled hazardous waste sites.

Disposal - In the context of this document, sending the affected soil to a landfill designed and approved to accept such material.

Feasibility Study (FS) - An evaluation of potential remedial technologies and treatment options that can be used to clean up a site.

Fort Ord Soil Treatment Area (FOSTA) - A soil treatment area located on Fort Ord that will use bioremediation and soil vapor extraction to clean soil excavated from the designated areas. Existing buildings at the 519th Motor pool area at Fort Ord are currently proposed to be modified and used for the location of this facility.

Groundwater (GW) - Underground water present in the voids between soil particles.

Groundwater Monitoring Wells - Wells specially designed and designated for sampling groundwater. These wells are only used to assess the chemical quality of groundwater and not to produce drinking water.

Hazardous Waste - In the context of this document, soil that does not meet regulatory requirements for flammability, reactivity, corrosivity, or toxicity for nonhazardous material; and/or contains a waste listed in the regulations as hazardous. Not all hazardous materials are so designated because of possible health effects.

Interim Action (IA) - A remedial action that can be implemented quickly, and that, although not intended as a final site remedial measure, substantially reduces potential immediate, imminent, and/or substantial risks to human health and the environment.

Interim Action, Feasibility Study (IAFS) - The feasibility study specifically for the proposed Interim Actions at Fort Ord. The IAFS is summarized in this Proposal Plan.

National Contingency Plan (NCP) - The primary regulation implementing CERCLA.

No Action Site (NAS) - The designation or action taken on a site categorized by at least one of the three following characteristics: a

site or operable unit that is already in a protective state; a site for which CERCLA can not provide the appropriate authority to take any or complete remedial action; or a site in which no effective action can be taken using currently available technology.

Petroleum Hydrocarbons - In the context of this document, chemical compounds produced from the refining of crude oil, such as those found in motor oil or gasoline.

Proposed Plan - A report specifically prepared for public review and comment that summarizes the context and conclusions of a Feasibility Study.

Record of Decision (ROD) - A report documenting the final agency-approved remedial actions that will be required to clean up a particular Superfund site.

Recycling - In the context of this document, the inclusion of affected soil into a commercially viable product, such as asphalt, cement, or lightweight aggregate fill material.

Remedial Action Objectives (RAOs) - Goals for the protection of human health and the environment at a particular area. Remedial response actions and target cleanup levels are developed based on meeting RAO goals.

Remedial Investigation (RI) - Exploratory inspection conducted at a site to delineate the nature and extent of chemicals present.

Site Characterization - An investigation of the nature and extent of contamination associated with the known or potential release of hazardous substances.

Site Elimination Action (SEA) Sites - Fort Ord sites identified for elimination from the Superfund process through Interim Action or because No Action is required. These sites typically contain localized areas of surface soil contamination.

Soil Vapor Extraction (SVE) - A process whereby volatile chemicals are removed from affected soil by drawing air through void spaces within the soil.

Superfund - See Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) above.

Target Cleanup Concentrations (TCCs) - In the context of this report, site concentrations protective of human health and the environment to which chemicals present in affected soil will be cleaned up.

Treatment - In the context of this document, any actions taken on the soil that reduces the toxicity, mobility or volume of chemicals in the soil.

Volatile Organic Compounds - Chemical compounds containing the element carbon, and that may evaporate easily into air, such as those found in gasoline.

DRAFT

DRAFT

Chemical	Concentration (mg/kg)
Acetone	220
Antimony	27
Arsenic	0.87
Barium	1,000
Beryllium	0.39
Bis(2-ethylhexyl)phthalate	13
Cadmium	8.1
Carbon disulfide	0.96
Carbon tetrachloride	0.025
Chlordane	0.14
Chromium VI	0.23
Copper	2,500
4,4-DDT	0.53
Dieldrin	0.011
Ethylbenzene	530
Fluorene	640
Lead	240
Mercury	20
Methyl ethyl ketone	620
2-Methylnaphthalene	640
Petroleum Hydrocarbons	500
Naphthalene	640
Nickel	130
Phenanthrene	640
Pyrene	450
Selenium	340
Silver	340
Tetrachloroethylene	0.16
Thallium (as Thallous oxide)	4.7
Toluene	190
1,2,4-Trichlorobenzene	49
Vanadium	470
Xylenes	130
Zinc	20,000

• These PRGs are taken from *Draft Technical Memorandum, Preliminary Remediation Goals, Fort Ord, California*, dated June 14, 1993.

• mg/kg = milligrams of chemical in one kilogram of soil.

APPENDIX E

► CONCEPTUAL SITE MODEL DATA SUMMARIES ◀

TABLE E-1. CONCEPTUAL SITE MODEL DATA SUMMARY AND CHEMICAL STANDARDS SUMMARY

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentration	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals					
					Media/Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal	Technology Based Restoration Goal
OU1	Former Fire Drill Area. Currently in Operation and Monitoring Phase. RA started in 1988. Soil remediated. Groundwater remediated in 5 to 7 years. RA by bioremediation.	VOCs assumed to be nondetect inorganic constituents defined in HLA (1993b).	Ingestion of soil, dermal contact with soil, inhalation of airborne soil particles.	Human: onsite workers, students, child visitor Ecological: Coastal Live Oak Woodland, Dusky-footed woodrat, Great horned owl	Fuels, waste oils solvents, TCE, MEK					
OU2	Fort Ord Landfills. Currently in RI/FS phase.	VOCs assumed to be nondetect inorganic constituents defined in HLA (1993a) and HLA (1993b).	Ingestion of water and soil, dermal contact with water, inhalation of chemicals from groundwater to soil.							
1	Fort Ord Village Sewage Treatment Plant. Primary treatment at the plant consisted of two trickling filters, sludge digestion tank chlorine tank, dry beds.		TBD	Human: Current onsite resident child, current onsite resident adult, future onsite resident, drinking water from the Upper Aquifer future onsite resident, drinking water from 180-foot aquifer	TCE and other solvents, metals					
2	Main Garrison Sewage Treatment Plant. Sludge beds and percolation ponds were used at the site.		TBD		PCE, TCE, DCE, HBP/HC, heavy metals, pesticides					
3	Beach Firing Ranges. Site 3 consists of the small arms training ranges. Contaminants of concern are metals that may leach from bullets.		TBD		Heavy metals					
4	Beach Stormwater Outfalls. Incorporated into base/wide sewer program.		TBD		Waste oils, solvents					
5	Range 36A - Explosive Ordnance Disposal. The site is an explosive disposal range within the Impact Area.		TBD		Explosive residue, RDX, HMX					

TABLE E-1. CONCEPTUAL SITE MODEL DATA SUMMARY AND CHEMICAL STANDARDS SUMMARY

Continued

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentration	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals						
					Media/Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal	Technology Based Restoration Goal	
6	Range 39 - Abandoned Car Dump. The site is a storage area for drums, scrap metal, wood ammunition boxes, fragments of autos and military vehicles.		TBD		Gasoline, oils						
7	Ranges 40 & 41 - Fire Demo Area. The ranges were reportedly used for fire and smoke demonstrations using burning liquids in unlined trenches.		TBD		Gasoline						
8	Range 49 - Mototov Cocktail Range. The site consists of two army vehicles used as targets for Mototov Cocktail Training.		TBD		Gasoline, oils						
9	Range 39 - Flamed Fuel Exhibition. Gelatinized gasoline ignited. The site was used to train military personnel in the use of flammable/explosive material.		TBD		Gasoline						
10	Fire Drill Burn Pit. The site is a fire drill practice burn pit approximately 45 feet long, 25 feet wide, and 2 feet deep.		TBD		Fuels, waste oils, heavy metals, solvents						
11	AAFES Fueling Station. The site is an active fueling station, including a garage for automotive engine work, a small store, and a large refueling station.		TBD		Fuels, oils, heavy metals						
12	DOL Automotive Yard. Cannibalization yard, Lower Meadow Area. This site was used for automotive repair including degreasing and paint.		TBD		Solvents, fuels, oils, battery acid solvents						
13	Railroad Right-of-Way Areas of investigation include railroad right-of-way, loading docks, and former typewriter repair shop (Building T-2053).		TBD		Unknown						
14	707th Maintenance Facility. The facility includes various storage areas, oil/water separators, grease racks, UST, fueling station and wash rack.		TBD		Fuels, oils, solvents, grease						
15	Directorate of Engineering and Housing (DEH) Yard. The site is where pesticide mixing and storage and transformer storage occurred.		TBD		Pesticides, PCBs						

TABLE E-1. CONCEPTUAL SITE MODEL DATA SUMMARY AND CHEMICAL STANDARDS SUMMARY

Continued

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentration	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals					
					Media/Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal	Technology Based Restoration Goal
16	DOL Maintenance Yard, Pete's Pond Area. The site includes an inland storm drains, unpaved stained areas, an oil/water separator, paint shop, Pete's Pond a suspected disposal area.		TBD		Fuels, oils, solvents, UXO					
17	1400 Block Motorpool. The site is a motor pool used to service military vehicles and a former dry cleaning operation and a suspected landfill.		TBD		Fuels, oils, solvents					
18	1600 Block Motorpool and Housing (DEH) Yard Areas of Concern include oil/water separators, grease racks hazardous waste storage sheds, USTs, gas station and wash rack.		TBD		Fuels, oils, solvents					
19	2200 Block Facility. The site consists of a storm drain, a former UST, and drain in photographic laboratory.		TBD		Fuels, oils, solvents					
20	South Parade Ground, 3800 Block Motorpool, 519th Motorpool. The site includes potential disposal area wash racks, former USTs, and oil/water separators.		TBD		Fuels, oils, solvents, landfill					
21	4400/4500 Blocks Motorpool East. The site includes nine motorpools used to service, maintain, and store military vehicles.		TBD		Fuels, oils, solvents					
22	4400/4500 Blocks Motorpool West. The site includes motorpools used to service, maintain, and store military vehicles.		TBD		Fuels, oils, solvents					
23	3700 Block Motorpool. Potential source areas include former USTs, two former grease racks, stormwater drain and an oil/sand interceptor.		TBD		Fuels, oils, solvents					
24	Old DEH Yard. The site is currently vacant. Historically, it housed a plant nursery and the old DEH Yard.		TBD		Pesticides, fuels					
25	Former DRMO Site. The site is unpaved and used for training maneuvers. Various materials and equipment were stored and decommissioned at the site, including transformers.		TBD		PCBs, pesticides					

TABLE E-1. CONCEPTUAL SITE MODEL DATA SUMMARY AND CHEMICAL STANDARDS SUMMARY

Continued

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentration	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals					
					Media/Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal	Technology Based Restoration Goal
26	Sewage Pump Station (Buildings 5871/6143).		TBD		None					
27	Army Reserve Motorpool Areas investigated include a wash rack, an oil/water separator, an underground waste oil tank, and a hazardous waste storage area.		TBD		Fuels, oils, solvents					
28	Barracks and Main Garrison Area. The site consists of three buildings: the Visual Information Center, the Photo Developing Unit, and Print Shop.		TBD		PCE					
29	DRMO. The site is adjacent to the DRMO, where transformers and hazardous materials were stored.		TBD		PCBs					
30	Driver Training Area. The site includes a former grease rack, former gasoline station, and an abandoned wash rack.		TBD		Fuels, oils, solvents					
31	Former Dump Site. The site includes an area where debris including grass, cans, bottles, wood, concrete, scrap metal, ash, and rums are visible.		TBD		Unknown					
32	East Garrison Sewage Treatment Plant. Primary treatment at the site consists of Doton tanks, two sludge drying beds, and one percolation pond.		TBD		Fecal coliform					
33	Golf Course. The site consists of a vehicle wash rack, four aircraft wash aprons, and associated oil/water separators.		TBD		Pesticides, fungicides					
34	Fritzsche AAF Fueling Facility. The facility consists of a vehicle wash rack, four aircraft wash aprons, and associated oil/water separators.		TBD		Aircraft fuels, solvents					
35	Aircraft Cannibalization Yard. The site contains aircraft debris including helicopter and small pane fuselages, jet engines and wing sections.		TBD		Aircraft fuels, solvents					
36	Fritzsche AAF Sewage Treatment Plant. The facility consists of an Imhoff tank, two evaporation ponds, and two sludge beds.		TBD		Solvents, heavy metals, fuels					

TABLE E-1. CONCEPTUAL SITE MODEL DATA SUMMARY AND CHEMICAL STANDARDS SUMMARY

Continued

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentration	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals					Technology Based Restoration Goal
					Media/Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal	
37	Trailer Park Maintenance Shop. The site includes a storm drain in an unpaved portion of the yard, a former aboveground storage tank, and a former waste oil drum storage area.		TBD		Grease, fuels, oils					
38	ASFES Dry Cleaners. The site includes one former and two existing USTs that stored stoddard solvent.		TBD		Solvents					
39	Inland Ranges/Impact Area. The 8,000 acre site was used for ordnance training.		TBD		UXO, explosive residue					
40	Fritzsche AAF Defueling Area. The site consists of three potential defueling areas associated with FAAP helicopter landing strip.		TBD		Fuels					
41	Crescent Bluff Burn Pit. The site consists of 3 to 4 shallow burn pits that were used for the fire drills.		TBD		Solvents, heavy metals, hydrocarbons dioxins					

HLA 1993a, Draft Final Basewide Hydrogeologic Characterization, Fort Ord, California, June 7, 1993
 HLA 1993b, Draft Final , Basewide Background Soil Investigation, Fort Ord, California, March 15, 1993

TABLE E-2. SUMMARY OF BACKGROUND CONCENTRATIONS
--

It has been assumed that background concentrations of volatile organic compounds and base neutral semi-volatile compounds at Fort Ord are nondetectable.

**TABLE E-3. TOTAL METAL RESULTS OF BACKGROUND
GROUNDWATER LOCATIONS**

A-Aquifer (Filtered Results)				180-Foot Aquifer (Filtered Results)		
Metal	Frequency of Detection ⁽¹⁾	Maximum Concentration (µg/L)	Location of Maximum	Frequency of Detection ⁽¹⁾	Maximum Concentration (µg/L)	Location of Maximum
Arsenic	3 of 26	2.60	MW-BW-01-A	1 of 17	3.10	MW-20-07-180
Lead	3 of 26	2.00	MW-BW-12-A	3 of 17	1.20	MW-20-07-180
Selenium	2 of 26	3.60	MW-23-03-A	3 of 17	2.90	MW-10-06-180
Thallium	2 of 26	1.90	MW-23-03-A	2 of 17	6.50	MW-10-06-180
Calcium	22 of 26	46,500	MW-23-01-A	14 of 17	46,100	MW-10-06-180
Chromium	8 of 26	6.40	MW-23-03-A	14 of 17	8.00	MW-10-06-180
Copper	6 of 26	10.40	MW-23-02-A	1 of 17	2.80	MW-10-06-180
Iron	7 of 26	311	MW-BW-01-A	2 of 17	341	MW-20-04-180
Magnesium	22 of 26	31,700	MW-23-01-A	14 of 17	30,3000	MW-10-06-180
Nickel	3 of 26	43.10	MW-23-01-A	1 of 17	19.00	MW-20-06-180
Potassium	18 of 26	5,100	MW-23-01-A	14 of 17	6,010	MW-10-06-180
Sodium	22 of 26	118,000	MW-23-01-A	14 of 17	153,000	MW-10-05-180
Zinc	14 of 26	56.10	MW-8-18-A	8 of 17	62.80	MW-20-06-180

⁽¹⁾Number of positive detections out of the total number of observations.

APPENDIX F

► OTHER ANCILLARY BCP MATERIALS ◀

SWMU SUMMARY

SWMU Site No.	SWMU Name	Unit Type	Status	Parcel	Comments
FTO-001	Abandoned Fire Training Pit	Thermal Treatment		CSU	
FTO-002	Abandoned Landfill	Landfill		CSU	
FTO-003	FAAF Sewage Treatment Plant	Storage/Treatment Facility		CSU	
FTO-004	707TH Maintenance Bn, A,B, AND C Cos.	Container Storage	Now used for storage of paints and coatings	CSU	
FTO-005	13th Engineer Bn Motor Pool	Container Storage	Is now brick bldg and not used for pesticides	CSU	
FTO-006	HHC Cavalry Regiment Motor Pool, Bldg 527	Container Storage		CSU	
FTO-007	Cannibalization Area	Waste Pile	Still in operation. All wastes stored at FTO-017	CSU	
FTO-008	DRMO Hazardous Waste Storage Yard	Container Storage		CSU	
FTO-009	DRMO PCB Storage Bldg T-111	Container Storage		CSU	
FTO-010	AAFES Service Station	Waste POL Storage		CSU	
FTO-011	East Garrison Sewage Treatment Plant	Sanitary Waste-water Treatment		CSU	
FTO-012	Main Garrison Sewage Treatment Plant	Sanitary Waste-water Treatment		CSU	
FTO-013	Building 1442 Autoclave	Thermal Treatment	No longer in existence	CSU	
FTO-014	Fire Training Area	Thermal Treatment		CSU	
FTO-015	PCB Storage Area	Container Storage		CSU	
FTO-016	Open Detonation Area	Thermal Treatment	Originally listed as 7/7th ADA	CSU	
FTO-017	TASC Plastics Shop	Container Storage		CSU	
FTO-018	Pesticide Mixing Area	Container Storage	Originally listed as 2nd/62nd ADA-B-Battery	CSU	
FTO-019	AAFES-Economy Cleaners UST for Product Solvent	Container Storage	Originally listed as 7th Medical Battalion	CSU	
FTO-020	Infectious Waste Incinerator at Building 4385	Incinerator		CSU	
FTO-021	Silver Recovery Unit	Recovery Unit	Originally listed as 7th Military Police Company	CSU	

SWMU SUMMARY

Continued

SWMU Site No.	SWMU Name	Unit Type	Status	Parcel	Comments
FTO-022	Abandoned DRMO Site	Storage Facility		CSU	
FTO-023	TASC Graphics Shop	Temp. Container Storage		CSU	
FTO-024	519th Maintenance Company Motor Pool	Temp. Container Storage		EG	
FTO-025	14th Engineer Battalion Motor Pool	Temp. Container Storage		EG	
FTO-026	127th Signal Company Motor Pool	Temp. Container Storage		EG	
FTO-027	2/9 Recon Battalion Motor Pool	Temp. Container Storage	Closed, demolished	FAA	
FTO-028	9th Regiment MANCHU Motor Pool	Temp. Container Storage	No longer in existence	FAA	
FTO-029	9th Regiment HHC Motor Pool	Temp. Container Storage		FAA	
FTO-030	HHC Aviation Brigade Motor Pool	Temp. Container Storage		FAA	
FTO-031	8th Evacuation Hospital Motor Pool	Temp. Container Storage	Originally listed as 121st	FAA	
FTO-032	HHC Aviation Brigade Motor Pool	Temp. Container Storage	No longer in existence	FAA	
FTO-033	1/23 Aviation Regiment, A, B, and C Co. Motor Pool	Temp. Container Storage	Originally listed as 7th AVN	FAA	
FTO-034	2nd Brigade Consolidated Motor Pool	Temp. Container Storage		MRA	
FTO-035	3rd Brigade Consolidated Motor Pool	Temp. Container Storage		MRA	
FTO-036	DOL Heavy Equipment Maintenance Motor Pool	Temp. Container Storage		MRA	
FTO-037	DOL Main Automotive Yard Motor Pool	Temp. Container Storage		MRA or CSU ?	
FTO-038	DOL General Equipment Maintenance Motor Pool	Temp. Container Storage	Closed, remediated	UC	
FTO-039	DOL Aircraft Maintenance Motor Pool	Temp. Container Storage		UNCLAIMED	
FTO-040	DOL Temporary Motor Pool	Temp. Container Storage		UNCLAIMED	N. of SK, S. of CSU

SWMU SUMMARY

Continued

SWMU Site No.	SWMU Name	Unit Type	Status	Parcel	Comments
FTO-041	590th SS Company Motor Pool	Temp. Container Storage	Closed, hooked into municipal system	UNCLAIMED	W. of MRA
FTO-042	HHC Combat Aviation Brigade Motor Pool	Temp. Container Storage		UNCLAIMED	E. of MRA
FTO-043	1-123rd AVN Reg. A, B, C, and D Co. Motor Pool	Temp. Container Storage		UNCLAIMED	
FTO-044	123rd AVN Battalion, E Company Motor Pool	Temp. Container Storage		UNCLAIMED	
FTO-045	237th Medical Detachment Motor Pool	Temp. Container Storage		UNCLAIMED	
FTO-046	219th Cavalry Recon. Flight Maint. Motor Pool	Temp. Container Storage		UNCLAIMED	S. 9, Adjacent to UC
FTO-047	3rd Bn. 123rd AVN Brig. D Co. Flight Main. Motor Pool	Temp. Container Storage	Closed, to be remediated	UNCLAIMED	S. of CSU
FTO-048	6th/8th Field Artillery Battalion Motor Pool	Temp. Container Storage	Closed, still in place	UNCLAIMED	
FTO-049	7th/15th Field Artillery Battalion Motor Pool	Temp. Container Storage	Closed, still in place	UNCLAIMED	
FTO-050	2nd Battalion, 62nd Air Defense Artillery Motor Pool	Temp. Container Storage		UNCLAIMED	S. of CSU
FTO-051	5/15th Field Artillery Battalion Motor Pool	Temp. Container Storage	Was originally listed as 56th Medical Company	UNCLAIMED	S. of CSU
FTO-052	7th Military Police Company Motor Pool	Temp. Container Storage		UNCLAIMED	S. of CSU
FTO-053	123 Regiment AVN Regiment, E Company Motor Pool	Temp. Container Storage		UNCLAIMED	S. of CSU
FTO-054	107th Medical Battalion Motor Pool	Temp. Container Storage		UNCLAIMED	S. of CSU
FTO-055	U.S. Army Reserve Center Motor Pool	Temp. Container Storage	Originally listed as 7th Aviation Bn, C and D Co.	UNCLAIMED	S. of CSU
FTO-056	707th SPT Battalion Organizational Motor Pool	Temp. Container Storage		UNCLAIMED	S. of CSU
FTO-057	571st Military Police Company Motor Pool	Temp. Container Storage		UNCLAIMED	S. of CSU
FTO-058	761st Chemical Company Motor Pool	Temp. Container Storage		UNCLAIMED	NPL SITE 5 ?